

BULLETIN OF THE UNIVERSITY OF GEORGIA
ISSUED QUARTERLY NO. 17 BY THE UNIVERSITY

Entered at the Post Office at Athens, Georgia, as second-class matter, October 24th, 1900

VOL. 5

JANUARY 1905

No. 1

HANDBOOK

FOR

Accredited High Schools

**Of the University
Of Georgia.**



Containing conditions for approval of Schools, entrance credits, suggested courses of study, equipment for laboratories and libraries, and recommendations by the Heads of Departments.

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The University at Athens.

- I. FRANKLIN COLLEGE.—(The College of Arts). Established 1861, offering the Degree of Bachelor of Arts and includes General Courses in the Liberal Arts. Special courses.
- II. THE GEORGIA STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS.—(The College of Science), Established 1872, offering the Degree of Bachelor of Science and includes the following courses:—The General Science Course, the Civil Engineering Course, the Electrical Engineering Course, the Long Agricultural Course, the Short Agricultural Course, the Dairy, the Experiment Station (at Experiment), the Farmers' Institutes.
- III. THE GRADUATE SCHOOL.—Offering the following Degrees:—Master of Arts, Master of Science, Civil and Mining Engineer.
- IV. THE LAW DEPARTMENT.—Offering the Degree of Bachelor of Law. A two years' course.
- V. THE UNIVERSITY SUMMER SCHOOL.—Founded in 1903. Five Weeks' Session offering courses in Common School Branches, Pedagogy and Related Subjects, High School Studies, Selected College Studies.
- VI. THE SCHOOL OF PHARMACY.—Offering the Degree of Graduate in Pharmacy. A two years' course.



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THE
ACCREDITED HIGH SCHOOL

JOSEPH SPENCER STEWART, A. M.

PURPOSE.

This Bulletin is issued with a view of fully acquainting boards of education and teachers with the plans and purposes of the University in accrediting high schools and to encourage the establishment and improvement of additional high schools so that secondary education will be in the reach of every boy and girl.

Our fathers planned a complete system of education in the charter of the University granted in 1785, embracing common schools, secondary schools and the University. Jefferson later outlined a similar plan for Virginia. Most of our states and the European countries have realized Huxley's ideal of a free school system, a ladder from gutter to University. With the exception of the high schools in the cities and larger towns and a few private academies Georgia still lacks a high school system. No provision has been made for the great mass of our young people in the villages and rural districts for training beyond the common schools. A great gap is between them and the University. Chart Number One is designed to show this gap. It shows the seven common school grades, the University classes and the missing three years of the high school. This gap must be filled.

PRESENT CONDITIONS.

The high schools already established have not been properly correlated with the common schools below and the University above. There are many excellent high schools in the state doing as good work in many respects as is done in any other state. There

has, however, been little unity of plan over the state. Some begin their high school with the sixth grade and tack on a collegiate department in the ninth grade. Others begin the high school in the eighth grade and a few in the ninth grade. There is also great variety in the subjects taught as shown in chart Number 3. Equally great variety is found in the length of recitation periods, grade of text used, number of recitations a day, library and laboratory facilities, and in the stability of the schools. In many cases the course is changed annually with each new teacher. In some instances the principal is required to teach the entire high school course and some of the common school studies. In a few cases where the trustees aspire to college grade for their school, at least in name, the principal and possibly one assistant try to spread themselves out over the whole educational field, to the sad detriment of the pupils, and the discomfiture of the teachers.

DESIGN OF ACCREDITED HIGH SCHOOLS.

Now the plan of accrediting high schools by the State University was designed to correct many of these evils and to give recognition to those schools that are doing efficient work. We recognize the fact that the high school has a definite mission and that preparation for college is only a part of this; that a large per cent. of the students never go to college, but complete their studies in the high school. It is not intended, therefore, to force the high schools into mere preparatory schools but to make the standard of scholarship, and the subjects of study such that the course will be best for all the students, and what will be best for all will meet the requirements of the University for entrance. Educational reform proceeds from the top downward, as Ben Hill said, and the University, by giving the schools the advantage of its broader view point seeks to improve the whole system. The common schools, which receive many of its teachers from the high schools, will be helped; and these pupils will have better advantages when they enter the high school, strengthened, and enriched, by the visits of the University authorities. The University and all other higher institutions will be helped by having more thoroughly prepared and well rounded students. We hope to make smoother the path from primary grade to University degree.

"The accredited system is a pull from above, inspiring pupils, teachers, school officials and patrons to greater and more intelligent educational activity."

VALUE OF ACCREDITED SYSTEM.

The plan of receiving students from accredited schools without entrance examinations is not new. In Germany, where all schools

are inspected, certificates from secondary schools admit to the universities. In the western states eighty per cent. of the students are admitted from accredited schools, while the principle is growing in the eastern states. The fundamental idea is that it is better to examine the school, know its equipment, instructors and character of work done and rely upon the judgment of the principal as to fitness of his pupils to carry forward college work, than to ignore these, and make entrance to college conditional upon the applicant answering a given set of questions. In one case the school and in the other the student is examined and admitted into relationship with the University. The accredited system exalts the secondary school and its principal. It gives it a state and interstate standing for efficiency and enables communities to build up academies of recognized standing, drawing students from the surrounding territory.

Wherever tried the accrediting system increases the efficiency of the school, improves the scholarship of those entering college or who stop with the high school course.

In a recent examination by Prof. Dexter, of Illinois, in seventeen universities of the West it was found that the accredited students led in the matter of scholarship over those admitted on examination in the ratio of 3 to 1. These and many other facts might be given to show that the plans herein outlined to accredit schools in Georgia after visitation is best for the boy, for the college and for the community. Wisconsin has 240 accredited schools. Michigan an equal number, Minnesota 116, Missouri 108, Indiana, Iowa, Illinois, Kansas and New York each have over 100 such schools, in fact nearly every state university has adopted the plan.

ENDORSED BY THE MOSELY EDUCATIONAL COMMISSION FROM ENGLAND.

The Mosely Educational Commission, composed of twenty-six eminent English scholars, commends the accrediting system in the following words:—

“The accrediting system seems to have originated at the state university of Michigan and to be largely due to President Angel. When a school has been placed on the list it is still subject to inspection. It receives a report from the university upon each student that it sends thereto at the end of his first session. The result of the system is that in the states where it has been adopted the whole educational system has been unified and strengthened. The university is looked upon as a counsellor and friend of the schools; the university teachers learn much by continued intercourse with their scholastic colleagues and vice versa.

"The accrediting system, as against the older system, leaves the teacher and the taught free, and thereby stimulates better training. The evidence given by President Harper of Chicago was very striking. He said that when he left Yale to go to Chicago he was opposed to the system, but that experience in the middle west had led him to change his opinion and that now he is a firm believer in it.

This evidence of the value of a course of study of fixed duration, carefully graded and carefully watched is a signal triumph as compared with the sort of race horse method that turns our schools into training grounds for the examination race that occupies a few days at the end of a boy's school career.

The standard of the certified student is higher. This is shown by the figures of the first nine years' working of the system, based upon 1,000 students and 10,000 acts of examination. The attendance on high institutions increased owing to the interest aroused among the high school pupils by the visit of the university inspector. The visit of the inspector is a wonderful stimulus (1) to the teacher, with whom he holds conferences; (2) to the pupils, in whom it arouses a spirit of inquiry about the university and lends dignity and importance to their work; (3) to the community, which thinks much more of its schools and is more ready to support it, if it bears the stamp of university approval.

At a conference held in Baltimore in 1902 by the colleges and preparatory schools of the middle west and Maryland the subject was debated at length. Five of the speakers were against the examination system, including Dean Russell, of Columbia Teachers' College, and only two in favor of it.

At this juncture when new universities and new secondary schools are being established in England, no feature of American education seems to offer more helpful suggestions than the accrediting system of the middle west.

It is perhaps one of the most noteworthy contributions of America to educational progress. It is only another instance of the responsibility and consequently of the dignity that is cast upon the teacher. To dignify the teaching profession is a certain way of making it strong. It is delightful to find how keenly the teachers realize the value of this dignity that results from freedom."

METHOD OF ACCREDITING.

Acting with the approval of the Board of Trustees, the University offers to establish such relations with the high schools and academies as will be to their mutual aid and to the bringing into some kind of system the school interests of the state.

A State Agent has been appointed by the Board of Trustees to examine the work and equipment of such high schools and academies as desire to be accredited by the University.

These schools are inspected for credit on application from the principal or superintendent on blanks furnished by the University. This application furnishes information regarding the school population, the length of recitation periods, number of teachers, their professional education and experience, the number of recitations per pupil and per teacher, the subjects taught, texts used, times recited each week and units covered. On receipt of this application, if it appears from the report that the school is probably worthy of a place on the accredited list, or that the agent can be of service in arousing more interest in education, a visit will follow. The agent reports on the school to the **Committee on Accredited Schools** of the University faculty, and upon approval of his report, a certificate of credit is issued to the school showing in detail the credits allowed in the different subjects of instruction. Credit is assigned to a high school for each subject separately so that either the whole or any part of it may be accepted.

The credits issued are of two kinds: First, Schools which fully meet admission requirements mentioned below in one of the degree courses. Second, Schools which, while they can do only a part of the required preparatory work, are doing that part in a satisfactory manner. The work of these schools will be accepted by the University in the subjects that meet the admission requirements.

Examinations will be required in subjects not accredited or for classes above that for which credit has been given.

CERTIFICATE TO STUDENTS.

Students entering the University or any institution accepting the credits of the University, is entitled to a certificate from his principal on a blank form furnished by the University, showing his stay in the school, the subjects he has taken in his course, length of recitations in minutes, number of recitations per week, amount accomplished, units in work, and his average grade in each subject indicated by the letters A B C D. The grading is necessary for the protection of the teacher. A boy may be of A grade in Eng. and C. in Latin. The several professors will thus know the teachers estimate of the character of work done by this individual student. **A diploma will not be accepted in lieu of certificate of principal.** These certificates should be sent to the University, care of the state agent, before the opening of the term, so that they may be examined and deficiencies, if any, noted in time for correction. They should not be handed to applicants to bring with them to college as delays and inconveniences are often caused thereby.

Accredited schools should keep permanent records, the property of the school, so that new teachers will find a record of the students' work throughout their high school career. Trustees should see that this is done. It is a great help to the new teachers and prevents much of the disorder occasioned by change of teachers. The school records should show a complete history of every child since his entrance to the schools.

An annual report is required of each school, concerning its teachers, course of study, methods of instruction and equipment on blank forms furnished by the University. These reports should be filed during the first six months of the school year, preferably by the 1st of February.

RULES GOVERNING THE ACCREDITING OF HIGH SCHOOLS.

High schools, academies, seminaries, or other secondary schools meeting the following conditions, may upon vote of the University Committee of Accredited Schools, after examination by the agent, be accredited as making full preparation for one or more of the University courses.

1. The course of study must not be less than three years, of thirty-six weeks each in length, following an elementary course of not less than seven years in length.
2. There must be at least two teachers in high school, one of whom may be the superintendent, but the other must give his entire time to high school work. Graduates of the universities or colleges of recognized standing are preferred. The University cannot look with favor upon a school, seeking approval, that shows an indifference to the grade of scholarship of the teachers employed.
3. Schools seeking considerable credit in science must demonstrate their ability to do successful laboratory work.
4. Schools seeking considerable credit in History and English must give evidence of a special library equipment for these branches.
5. The school must give satisfactory instruction in the following subjects:

	Units.
English... ..	3
Mathematics.	3
History..	2
Latin	3
Physical Science	2
Greek or other Optional studies... ..	2

15

By unit is meant one year's work in each subject, with five

periods a week, meaning by "period" not less than thirty minutes of time devoted to actual teaching.

I.

The University Presents the Following Requirements for All Courses

	Units.
1. English: Grammar, Composition, Classics, Rhetoric.....	3
2. Mathematics: Arithmetic, Algebra, Plane Geometry.....	3
3. History and Civics:	
Ancient History	1
English History	1½
American History	½

II.

Requirements for Bachelor of Arts Course.

	Units.
1, 2, 3 in Group I.	
4. Latin	3
5. Greek	2

III.

Requirements for General Science, Engineering, and Agricultural Courses for Bachelor of Science Degree.

	Units.
1, 2, 3 in Group I.	
4. One foreign language (either Latin,* Greek, French, German or Spanish),	2
5. Elementary Physics	1
6. Physical Geography	1
7. And one of the following:	
1. Additional year's work in a foreign language*..	1
2. Botany	½
3. Chemistry	1
4. Drawing	½
5. Physiology	½
6. Elementary Agriculture	½

*It should be noted that 3 units of Latin are required if the student wishes to pursue the study of Latin in the Freshman class of the University. One unit of Latin (instead of "additional foreign language") should then be added to the units before mentioned. One of the foreign languages will then be the same in both courses.

The above requirements will go into effect in September, 1905.

I. Thirteen credits will be required for entrance into the Freshman class, either in the B. A. or B. S. courses.

For The Bachelor of Arts Course.

All of Groups I. and II.

For The Bachelor of Science Course.

All of Group I., and five units in Group III.

For The School of Law.

Three units in English will be required for 1905. These requirements will doubtless be increased at the next meeting of the Board of Trustees.

For School of Pharmacy.

Three units of English, one of History, two of Mathematics, one in Latin and one in Science must be offered, or a total of eight units for entrance to the Pharmacy course looking to a degree. Until 1907 students may make up as many as three of the above units.

NOTES ON THE REQUIREMENTS.

The reader will note that the plan outlined above contemplates two courses of study, in which the English, History and Mathematics is the same but differing largely in the other studies.

Schools that can afford to do so should offer both the classical and the scientific courses, but if the teaching force is small it will be better to choose the one meeting the demands of the largest number and have this thoroughly taught. A third course might be offered in some schools to advantage, called the commercial course. This should offer the same English, History, Mathematics, omit the ancient language, include the required sciences and add two units of commercial studies.

SUGGESTED COURSES OF STUDY.

I Classical	II Scientific.	III Commercial
English.	English.	English.
Mathematics.	Mathematics.	Mathematics.
Ancient History.	Ancient History.	Ancient History.
Latin.	Latin.	Latin (optional.)
Physical Geog. 4 hrs.	Physical Geog. 4 hrs.	Physical Geog. 4 hrs.
<i>2nd</i>	<i>2nd</i>	<i>2nd</i>
English.	English.	English.
Mathematics.	Mathematics.	Mathematics.
Latin.	Latin.	Commercial.
Greek.	Physics.	Physics.
English History.	English History.	English History.
$\frac{1}{2}$ or 2 hours a week. (throughout the year,)	$\frac{1}{2}$ or 2 hours a week. (throughout the year.)	$\frac{1}{2}$ or 2 hours a week. (throughout the year.)

<i>3rd</i>	<i>3rd</i>	<i>3rd</i>
English.	English.	English.
Mathematics.	Mathematics.	Mathematics.
U. S. History, ½ or 2 hours a week.	U. S. History, ½ or 2 hours a week.	U. S. History, ½ or 2 hours a week.
Latin.	Latin.	Agri. ½, Botany ½.
Greek.	Agri. ½, Botany ½.	Commercial.

**A Suggested Program for Two Teachers on the Departmental Plan
In High Schools With Two Courses of Study.**

Time	1st Assistant.	Principal.
8:30—15 min.—OPENING EXERCISES.		
8:45—30 min.	1st-year English.	2nd-year Mathematics.
9:15—30 min.	2nd-year English.	3rd-year Mathematics.
9:45—30 min.	3rd-year English.	1st-year Mathematics.
10:15—30 min.	2nd-year Latin.	<i>Supervision.</i>
10:45—15 min.—RECESS.		
11:00—30 min.	1st-year Latin.	3rd-year History.
11:30—30 min.	3rd-year Greek.	2nd-year Science.
12:00—30 min.	2nd-year Greek.	<i>Super., Lab. 2 a wk.</i>
12:30—30 min.	3rd-year Latin.	1st-year Science.
1:00—20 min.—RECESS.		
1:20—30 min.	2nd-year History.	3rd-year Science.
1:50—30 min.	1st-year History.	Laboratory, 2 a wk.
2:20—DISMISSAL.		

1. The above program illustrates the departmental plan and how the two courses may be taught by two teachers. If modern languages be included in course II, the principal will then have full hours.

It also shows how impracticable it is for one teacher to attempt to teach the entire high school course. Where possible 40 minutes is better than 30 minutes for large classes in high school studies. The longer periods give more time for asking questions, for challenging a class-mate's statements, for clear reasoning. Short, hurried recitations tend to slovenly work, inaccurate statements, to a willingness to take the teacher's word for it, to avoiding interrogation and to shining without searching analysis. Let Boards of Education look into this matter of length of recitation periods and the number of recitations a day required of teachers and of pupils. In general terms, ten recitations a day should be the maximum for any high school teacher and five prepared lessons for any high school student.

2. The above optional courses will give sufficient latitude to meet the demands of all students and yet require of all a well balanced curriculum. Boards should select I. and II., or II. and III., or I.

and III., or offer all three. With three teachers in the high school, in the towns, all three courses can be given.

3. Two years of Latin or of any other foreign language may be substituted for three units of Latin in course II. where students do not expect to continue Latin in college.

4. Instead of Agriculture and Botany some other sciences may be selected but I believe these will meet the needs of more students in Georgia than any other, and will require less apparatus for their proper teaching. This is a question of preference, utility and ability of teacher to instruct and must be decided by each school.

5. If one teacher is required to teach the high school, one course is all that he should attempt. Even this would require fourteen recitations a day, which is really more than any man can do well. Two courses and two teachers would require seventeen hours work or ten for the assistant and seven for the principal. This will allow the principal some time to supervise the other classes, which is very essential to the proper toning up of the entire course.

6. The departmental plan should be used as far as possible. That is, let one teacher teach all the languages, for instance, the other, all the sciences, grouping the various subjects to suit the preparation and tastes of the teachers. Better work can be done where teachers can put their time for study on a few subjects than where each must try to keep up in all.

7. No allowance has been made for periods for spelling, writing, etc., as these are supposed to accompany the instruction in all subjects and do not need separate periods or texts in the high school. Occasional reviews in the way of matches might be given in spelling.

8. Every school should have its literary society, with regular meeting under the general supervision of the teachers. One hour a week cannot be better spent.

9. The commercial course should cover two years at least, and should include as many of the general culture studies as due allowance for the commercial work will allow. In schools that offer a modern language this should be required of those selecting the commercial course. In other schools pupils should be encouraged to take one year of Latin. The commercial studies should include bookkeeping and office practice, one year, with at least three double periods a week; commercial Geography, History of Commerce, three hours a week for one year. Banking, Accounting, Advertising, Commercial English and Arithmetic, one year with three double periods a week.

The introduction of stenography, and typewriting will neces-

sitate lengthening the course to three years and will depend upon the ability of the board to supply a competent teacher and the necessary equipment. It can well be omitted in the smaller high schools.

Those wishing a full discussion of the commercial course are referred to the 1904 volume of the National Educational Association and to the **Report of the Committee of Nine**, University of State of New York, Albany, N. Y. Price 20 cents.

By all means avoid the mistake of sacrificing depth and breadth of preparation, which alone can insure an all around efficiency and power of initiative, for mere skill in the machinery of the business work.

10. Proper secondary instruction cannot be given today without a reference library in History and Literature, and laboratory facilities and reference books, in the sciences. Nor can good work be done when pupils have from six to ten studies daily with **fifteen and twenty minutes** recitations. Happily, the time is passing when high school teachers are inclined to confine their classes to the memorizing of a single text. More and more children are taught to investigate, to search after truth, to test, to think, to do, to create. The method of the high school should presage the work and method of the college and of life. In life the problems to be solved have no ready made answers, the questions to be put to nature must be answered in nature's laboratory; the value of language study will come from the appreciation of literature and the ability to use strong, clear, pure English; the worth of History will come from our ability to see causes and relations, to appreciate true citizenship and be loyal citizens. We urge school authorities to provide adequate equipment, scholarly teachers and a well rounded course of study for the children of their community. Every member of a board should endeavor to improve the material equipment and utility of the school each year, and every principal should strive to make the school under his supervision of more service to the people, by strengthening the teaching force, widening the influence of the school and enlisting the help of all the community in its welfare. A school that does not show growth needs the pruning knife.

THE SUMMER SCHOOL.

The Summer School of the University of Georgia offers unusual advantages for teachers in high schools to study the subjects taught in the secondary courses. Each department will offer a course bearing on the teaching of the same in the high schools. The teachers will have the advantage of the library and laboratories of the University. Last year nearly five hundred teachers took courses

at the Summer School. Now that the state has given a special appropriation for this school we hope to make it even better than in the past. We trust every Georgia teacher will plan to spend one summer in three at the University. During the second week of the Summer School each year will be held an **"Accredited School Conference,"** in which the principals and teachers of our high schools and members of boards of education and college professors will confer on questions pertaining to their mutual work.

The State Agent will be pleased to meet with the high school teachers and members of the boards of education and others while on a visit to the school. If his visit may add anything of encouragement, of enthusiasm, of material equipment, of stronger teaching, of greater love for the schools, he will be delighted.

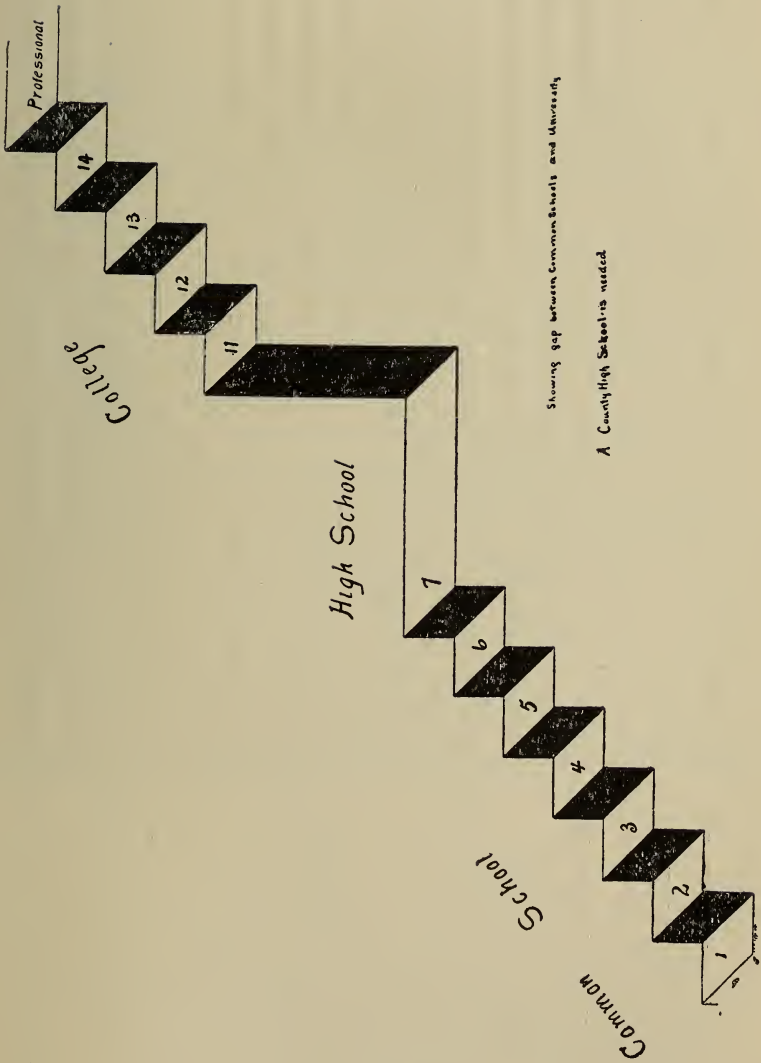


CHART No. 1

Shows the gap in our school system which must be filled by a properly correlated High School.

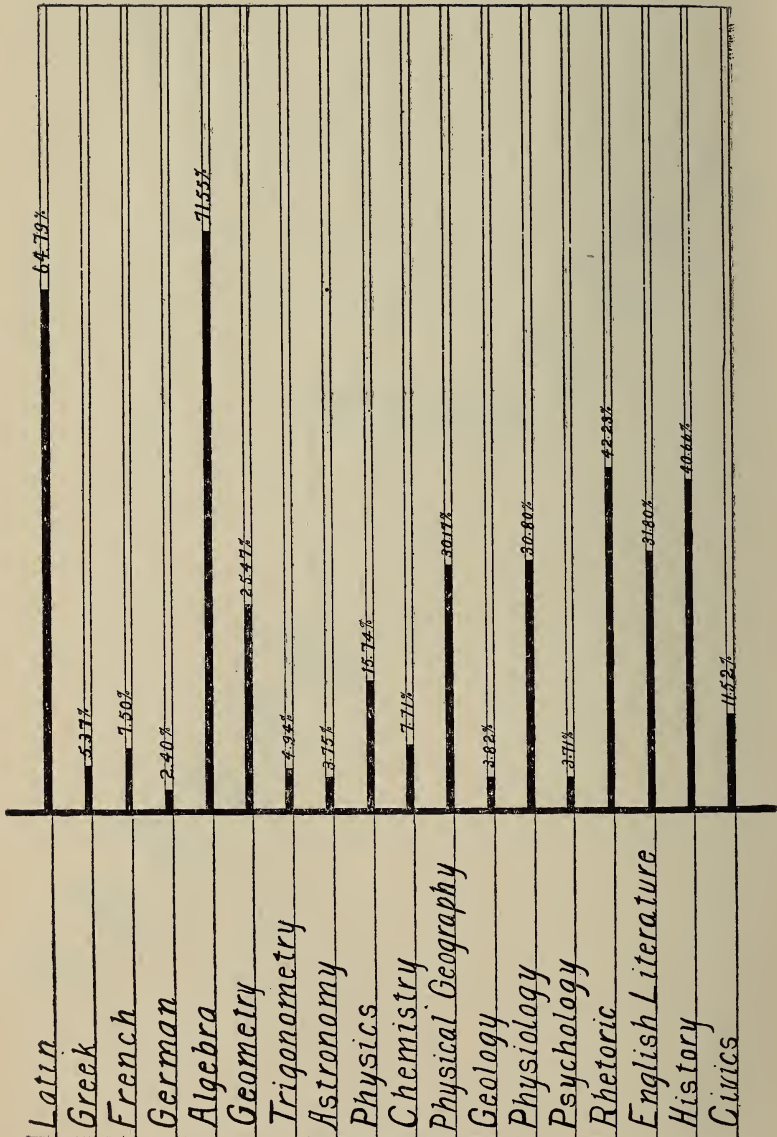


CHART No. 3

Shows the studies in our High Schools in Georgia, and the per cent. of the pupils studying each.

List of High Schools.

Applications have already been received from the following leading high schools of the state and we have notice from thirty other schools of intention to file applications during the spring term, 1905. As the system does not go into full effect until September 1905 we will not publish the credits of each school at this time.

Albany Academy, J. C. Wardlaw.
 Furlow High School, Americus, A. G. Miller.
 Athens High School, G. G. Bond.
 Boy's High School, Atlanta, W. M. Slaton.
 Richmond Academy, Augusta, Chas. H. Withrow.
 Presbyterian Institute, Blackhear, Thos. G. Wilkinson.
 Blakely High School, L. J. Fowler.
 Boston High School, W. E. Nichols.
 Butler Male and Female College, J. M. Richardson.
 Hearn Academy, Cave Springs, R. W. Edenfield.
 Carrollton High School, C. K. Henderson, Jr.
 Sam'l Benedict Memorial H. S., Cedartown, G. E. Benedict.
 Columbus High School, C. B. Gibson.
 Commerce High School, J. M. Stephenson.
 Calhoun High School, A. N. Swain.
 Cedartown High School, W. T. Garrett.
 Cornelia High School, J. W. Marion.
 Dawson High School, J. R. Hankins.
 Donald Fraser High School, Decatur, G. Holman Gardner.
 Eatonton High School, W. C. Wright.
 Elberton High School, P. B. Winn.
 Eastman High School, R. C. Barrett.
 Fitzgerald High School, M. D. Miller.
 Griffin High School, J. Henry Walker.
 South Atlantic Institute, Guyton, H. B. Bible.
 Gainesville High School, J. D. Garner.
 Hartwell Institute, M. L. Parker.
 LaGrange High School, C. L. Smith.
 Lumpkin High School, Ralph Newton.
 Meson Academy, Lexington, H. B. Wallace.
 Gresham High School, Macon, C. B. Chapman.
 Madison High School, M. F. Ramsey.
 Marietta High School, W. T. Dumas.
 Moultrie High School, Geo. D. Godard.
 Richland High School, W. F. Monk.

Rome High School, J. C. Harris.
 Boys' Industrial School, Rome, Robt. H. Adams.
 Sparta High School, E. J. Robeson.
 Sandersville High School, John Gibson.
 University School for Boys, Stone Mountain, W. B. Griffin.
 Savannah High School, Otis Ashmore.
 Thomasville High School, A. J. Barwick.
 Tallapoosa High School, W. A. Thompson.
 R. E. Lee Institute, Thomaston, F. F. Rowe.
 Tifton High School, Jason Scarboro.
 Valdosta High School, R. B. Daniel.
 Vienna High School, R. O. Powell.
 Washington High School, T. E. Hollingsworth.
 Winder High School, H. R. Hunt.
 West Point High School, J. E. Purks.
 Waycross High School, E. A. Pound.

The heads of the several schools of the University which are related to high school instruction have prepared short articles by way of suggestion and explanation. These have been written in a spirit of helpfulness and the professors invite correspondence and helpful criticism. They especially invite all interested to the annual Conference of Accredited High Schools the first week in July, during the Summer School. During this conference questions pertaining to the growth of the schools will be freely discussed.

ENGLISH.

ROBERT EMORY PARK, A. M., L. H. D.
 STEADMAN VINCENT SANFORD, A. B.

A generation ago the importance of the study of English language and literature in our educational system was little recognized by the teaching profession. Today this study yields to no other its right to the first place in every well regulated curriculum, whether it be that of grammar school, high school, college, or university. It is now conceded in the pedagogic world that an intelligent study of our own language and literature is of prime importance to the mental and moral development of the man. The committee on College Entrance Requirements of the National Educational

Association in the proceedings of 1899 says: "The committee presents first the proposition that the study of the English language and its literature is inferior in importance to no study in the curriculum. It offers all, or nearly all, the opportunities for mental training afforded by the study of any language, and introduces the pupil to the literature of his own tongue, which must always be the chief source of his own thought, inspirations, ideals and aesthetic enjoyment, and must also be the vehicle of his communication with his fellow-men. Hence this study should be placed in a position at least not inferior to that allotted other languages."

As a further evidence of this increased interest in the study of English, we need but notice the large number of text-books in grammar and in rhetoric, and the numerous editions of the English and American classics which are being brought out by the various publishing houses. But in spite of the interest with which pedagogy has endowed this study, the teacher of English is still floundering amid the complexity of ways and methods that are offered on every side for his guidance. The subject is so broad, the aims of the teacher are so indefinite, the methods of teaching are so widely different that it is not surprising that we find teachers of English sometimes discouraged at the problems of their profession. However, the work must be done; day by day its necessity is appealing more and more to the thinking world. In view of this necessity, and to the end that we may be of service, if possible, to other teachers of English in Georgia, we beg to submit to the high school teachers of the State a three years' course in English with its course of supplemental reading.

In making out this course we have held in view the complaint heard so often from the teachers of English in our colleges that so few students enter prepared in technical English, or with minds that are at all receptive to the beauties and truths of literature. That this complaint is well founded, we think, cannot be justly denied, though the fault does not lie altogether at the doors of either teacher or student. It lies rather in the somewhat nebulous condition of English teaching, and the, as yet, anomalous position that the study holds in the minds of so many intelligent and well meaning people. We offer the course, therefore, in the hope and belief that if it, or some equivalent course, can be followed out, there will in time be generated an atmosphere about the study of English that will be conducive of good, not only to teachers and students, but to the people of Georgia as well.

The teacher of English must ever bear in mind the two main objects of an English course: (1) The cultivation of the art of expression, and (2) The ability to appreciate the writings of the great thinkers. To attain these objects the student must be well

drilled in technical English grammar and in rhetoric. He must have constant practice in composition work under the inspiration derived from the reading of good books.

The aim of the teacher should be the development of the pupil's latent power of expression, and this is best done by bringing him into actual contact with the work of the masters of our language, and drawing such themes from these as will actually come within the range of his own environment, and selecting other themes from the pupil's every day life.

In composition work notice should be carefully taken of words, sentences and paragraphs. This should be done in the study of technical grammar and in rhetoric, and in connection with literature. The two departments, Composition-Rhetoric, and Literature should be studied side by side throughout the entire course, and should be made to supplement each other in every way possible.

On entering the high school, the pupil is supposed to have finished the study of English grammar. We wish to call attention to the fact that no greater mistake can be made in the pupil's English equipment than to take the above supposition for granted, and to drop the study of grammar. Constant practice in sentence analysis and word construction must be maintained throughout the high school course if the pupil is to be prepared to carry forward satisfactorily the work of his college. The study of Latin grammar or of Greek grammar cannot take the place of English grammar. We urge upon each teacher of English to take careful note of this, and see that the pupils are well grounded in the essentials of grammar.

In the work of rhetoric we wish to enter a protest against a slavish adherence to any text book of that subject. A text book is needed, but is to be used as a guide only. Do not let the pupil make the mistake of supposing that rhetoric can be learned from any text book. The text is to be used at first to familiarize the pupil with rhetorical terms, and afterwards as a reference book to supplement the course in literature in order to assist the pupil in the mastery of the art of expression.

The benefit to be derived from composition writing cannot be too highly estimated. It is a most potent factor in developing the power of expression of the pupil and teaching him a mastery of his language. Compositions should be required at least once each week. Let the teacher at first guide the pupil in his selection of subjects for compositions. Select only such subjects at the outset as come within the radius of the pupil's own experience, and from these work gradually to subjects taken from the literature studied, or from subjects of local or national interest. The compositions should not, in general, be of more than two pages in length; though an occasional one of from four to seven pages should be exacted.

The compositions should be carefully corrected in red ink and then returned to the pupil; where more than a certain number of mistakes occur, the pupil should be required to rewrite the composition in accordance with the corrections made. Both compositions should then be returned to the teacher. The compositions of each pupil should be kept on file and returned to him at the end of the term.

Close attention to this most important branch of English work will not only produce good results in the art of expression, but will in time materially assist the pupil in the study of literature, and, in fact, all other studies.

In accordance with the above preface we recommend the following course of study:

FIRST YEAR—First Term.

Rhetoric to the four forms of discourse.

The object of this first half year's work should be to familiarize the pupil with technical rhetoric so far as it relates to the sentence and paragraph and the various figures of speech ordinarily dealt with in elementary rhetoric.

Compositions of at least two pages should be required each week. The subjects of these compositions should be at first those taken from the experience of the pupil's own life, and at all times the subjects should be taken from familiar every day life.

The teacher must realize that rhetoric can best be taught practically through the medium of composition writing. The careful correction of these compositions on the part of the teacher, and the rewriting of them, when necessary, on the part of the pupil, will be sure to produce good results.

FIRST YEAR—Second Term.

Literature.—Emphasis on the Narrative Species.

In order to give the pupil a mastery of rhetoric and to awaken his interest in the study of English he should be brought into contact with the great masters of our language. With this end in view after a few lessons in narration from the rhetoric let him be introduced at once to the works of

Scott, Marmion, or Lady of the Lake.

Poe, Gold Bug.

Tennyson, Idylls of the King.

Lowell, Sir Launfal.

Home Reading.

Cooper, Last of the Mohicans.

Stevenson, Treasure Island.

During this term teach the following rhetorical qualities: (1) Force, (2) clearness, (3) elegance, (4) ease and beauty, (5) simile, metaphor, personification.

In the works assigned for careful study the pupil should be taught (1) mastery of subject studied, (2) purpose, (3) plot, (4) character-drawing, (5) setting, (6) style, (7) life of author.

In the works assigned for home reading the pupil should be required to make written reports and to be prepared for brief oral discussion in the class.

Composition.

The work of the compositions this term should be directed to (1) selection of material, (2) arrangement of material, (3) proportion of treatment. If this be properly done the pupil will be taught unity, coherence, mass.

Too much stress cannot be laid upon the mechanical part of composition writing. Each teacher should have a definite, fixed plan of folding the papers; neatness of penmanship and of manuscript should be required; heading, margin, indention of paragraphs, etc., should be carefully taught.

Grammar.

As the work is progressive the teacher should stress during this term, capitalization, punctuation, and concord.

SECOND YEAR—First Term.

Literature—Emphasis on Descriptive Species.

After a few lessons from rhetoric on description, let the pupil be introduced to

Poe, House of Usher.

Goldsmith, Deserted Village.

Byron, Childe Harold cantos III & IV.

Coleridge, Ancient Mariner.

Home Reading.

Irving, Selections from The Sketch Book.

Hawthorne, Old Manse.

Dryden, Palamon and Arcite.

During this term teach (1) attention to details, (2) subjective and objective descriptions, (3) the various figures of speech.

In the works for careful study emphasis should be laid upon plot, incident, and character.

In the works required for home reading, the teacher should illustrate by lectures the point of view he wishes the pupil to observe, and then require the pupil to establish the point of view through the medium of written compositions.

Composition.

In the work of independent compositions, subjects should largely be drawn from the literature studied. A point of view should be selected and the material arranged so as to make clear this point of view. Emphasis should now be laid upon the choice of words and paragraph structure.

Grammar.

Review the essential principles of grammar, with especial reference to the infinitive and participle.

SECOND YEAR—Second Half.

Literature—Emphasis on Expositive Species.

This work is more difficult of comprehension by pupils and therefore more attention must be given to its treatment in the rhetoric. After completing this division in the rhetoric let the pupil take up the following course of study:

Macaulay, Milton.

Milton, Minor Poems.

Carlyle, Essay on Burns.

Home Reading.

Addison and Steele, Sir Roger de Coverly Papers.

Pope, Iliad.

These works are well adapted to teach figures of speech, sentences, and paragraph development.

In the works for careful study emphasis should be laid upon (1) mastery of subject matter, (2) structure—introduction, body, conclusion, (3) style—words, sentences, paragraphs.

Composition.

The pupils should now be led to express themselves not only with accuracy but with some degree of elegance. They should be taught paragraph development by (1) particulars and details, (2) telling what it is not, (3) comparison and contrast. Outlines for compositions should be prepared by the students from several points of view and these outlines criticised in the class. See that the outlines as well as the completed compositions possess unity, coherence, and mass.

THIRD YEAR—First Half.

Literature—Emphasis on Exposition and Argumentation.

(Light stress should be put upon argumentation.)

Burke, Conciliation with American Colonies.

Macaulay, Essay on Addison.

Shakespeare, Julius Caesar.

Home Reading.

Scott, *Ivanhoe*.

Shakespeare, *Merchant of Venice*.

These works are adapted to the teaching of: (a) paragraph development by (1) repetition, (2) proofs, (3) specific instances, (4) cause and effect, (5) combinations of forms; (b) sentences, periodic, loose, and balanced; (c) methods of transition.

Composition.

The composition of this term should be more pretentious and formal. An outline should accompany each composition. At least two of these compositions should be directed by the teacher.

Grammar.

The analysis of the English sentence.

THIRD YEAR—Second Term.

Historical review of English Literature—text-book.

Shakespeare, *Macbeth*.

Eliot, *Silas Marner*.

Home Reading.

Goldsmith, *Vicar of Wakefield*.

Tennyson, *Princess*.

During this term emphasis should be laid upon the development of the language and literature of the English people.

Composition.

Throughout the term compositions of considerable length should be required of the pupils and these compositions should be examined and criticised in detail by the teacher.

Throughout the three years' course two or more short selections from standard poetry should be assigned each term to be memorized by all the pupils. This should be done primarily as an aid to the teaching of literature, though it will be found to exert a salutary effect on the memory faculties of the pupils.

Public Speaking.

No course in English can be considered complete without some work in public speaking. The ability to think and to express one's thoughts on paper, or from the platform, is the best gift that education can bestow upon its followers. The entire purpose of an English course is to accomplish this end, and a course in public speaking will assist materially in accomplishing it.

The course should extend throughout the entire high school course, though the amount of time devoted to it must be largely de-

terminated by the conditions obtaining in the school curriculum. The afternoons of Fridays could very profitably be given up to this work.

During the first year the pupil should be drilled in declamations and interpretative reading.

During the second year he should be taught to write original speeches of a commemorative type—speeches for Thanksgiving day, Washington's, Lee's, Jackson's birthdays, etc. Short speeches of welcome, class reunions, valedictories, etc., should also be written.

During the third year, work strictly pertaining to debates should be engaged in. Organize a debating club and have regular debates by the pupils. See that speeches are written by the leaders, and arrange so that each pupil can be leader as often as possible. Teach the value of topical outlines in the preparation of speeches, and the value of a matter of fact, conversational style in their delivery. Eliminate all bombast in matter of speeches and in style of delivery from the pupils, and teach them the fact that the basis of every effective speech is intense, orderly thought.

In conclusion let us say that the English Department of the University of Georgia will hold itself in readiness at any time either by correspondence or by lecture to illustrate the teaching of any particular part of the course suggested, or to direct in more general terms the work of the entire course.

From the large number of excellent text books on rhetoric the following will meet the requirements of the course outlined above:

Lockwood and Emerson's Composition-Rhetoric (Ginn & Co.)

Scott and Denny's Composition-Rhetoric (Allyn and Bacon).

Hill's Foundation of Rhetoric (American Book Co.).

Herric and Damon's Composition and Rhetoric (Scott, Foresmon Co.).

Espenshade's Elements of Composition (Heath & Co.)

Radford's Composition and Rhetoric (Hinds, Noble Co.)

HISTORY.

JOHN HANSON THOMAS McPHERSON, A. B., Ph. D.

Every student who enters the Freshman class of the University of Georgia is expected to have studied a certain amount of history, indicated as follows:

1. Ancient History, 1 unit,
2. English History, $\frac{1}{2}$ unit,

3. American History, $\frac{1}{2}$ unit, where "unit" implies one year's work of five periods a week. These requirements go fully into effect in September 1905. In 1904 and 1903 only the Ancient History was required; before 1903 there was no requirement in history.

It is most desirable that the teachers of the State should understand the reasons that have led to the adoption of a requirement in history, and the considerations that have determined precisely the requirements above stated.

Until a comparatively recent period the study of history was neglected or given a very subordinate place in both schools and colleges. Where it did find an odd corner in the curriculum it was unsystematically taught, and usually by teachers whose main work and interest lay in a very different field. The opening of Johns Hopkins University in 1876, where history was given an equal rank with classical and scientific studies, led the way to a more general recognition of history by other American universities and colleges. The enlightened and enthusiastic work of Dr. Herbert B. Adams, who organized the historical department of Johns Hopkins, and founded the American Historical Association, made an epoch in the general awakening to the importance of the study of history. From the colleges the interest gradually spread to the schools, and within a decade the newly developed graduate departments of history at Harvard, Columbia, Cornell, Michigan, Wisconsin, and other institutions could scarcely keep pace with the demand for specialists. Large numbers of enthusiastic and well-equipped young men were sent out each year to all parts of the country, to become radiating centres of the new influence. New and greatly improved text-books began to appear, to facilitate the movement. By 1890 history had established a permanent foothold as an educational study of the first rank.

In 1893 appeared the now well-known Report of the Committee of Ten of the National Educational Association. The Committee, composed of representatives of leading colleges and secondary schools in different parts of the country, had been appointed in 1891 to consider the general subject of uniformity in school programmes and in requirements for admission to colleges. Their report, embodying the results of two years' careful investigation, supplies a most valuable discussion of every subject embraced in the school curriculum, with the conclusion reached in regard to time, place, order, method and educational value. It should be in the hands of every teacher.*

* Published for the National Educational Association by the American Book Co., and sold at a nominal price.

In this report history is strongly recommended as a central and continuous study in every year of the school work. Its educational value is set forth in detail, with arguments to prove it inferior to no other study. The main points may be summed up as follows:

1. **Mental Training.**

- (a) The study of history cultivates powers of discriminating observation.
- (b) It strengthens the logical faculty.
- (c) It cultivates the judgment.
- (d) It affords training in acquiring facts, arranging and systematizing them, and putting forth an individual product.
- (e) It develops a scientific habit of mind and thought.

"History combines the advantages of a philosophical and a scientific subject: upon the one side, it is a study of the human mind, of character, and motives; upon the other hand, historical records form a body of material, which, in the demand its analysis makes upon the mind, may be compared with that of chemistry or geology."

2. **Moral Training.**

- (a) It inculcates respect for truth.
- (b) It affords object lessons, warning to avoid errors, and inspiring to emulate excellencies.
- (c) It develops power of persistent effort.

3. **Culture.**

- (a) It cultivates the power of expression.
- (b) It enables the pupil to understand conventional metaphors and allusions.
- (c) It strengthens and disciplines the imagination.
- (d) It gives training in the handling and use of books.

4. **Training for citizenship.**

- (a) Clarifies understanding of political and social environment.
- (b) It teaches more fundamentally than Civil Government the duties and responsibilities of citizenship.

5. **Knowledge.**

While power, rather than information, is the chief end of school work, the value of a store of historical material should by no means be underestimated.

The Committee of Ten therefore, assign history a prominent place in the school curriculum, and suggest courses and methods, showing how and where time can be gained for the enlarged amount of historical work. Their report doubtless encouraged still further the introduction of history into the schools. In 1897 the Bureau of

Education reported the number of pupils in the secondary schools studying history (other than American history) to have increased 152 per cent. in ten years. When the American Historical Association, therefore, appointed a Committee of Seven to investigate the study of history in the secondary schools, they had a much wider basis of experience to draw upon. Their Report* appeared in 1899, and its conclusions have since been practically recognized as determining the ideal school course under present conditions. The reasons upon which they base their plea for the study of history in the schools are practically the same as those above summarized from the report of the Committee of Ten; but their general conclusion is worth quoting:

"History has a central position among the subjects of the curriculum. Like literature, it deals with man, and appeals to the sympathy, the imagination, and the emotional nature of the pupils. Like natural science, it employs methods of careful and unprejudiced investigation. It belongs to the humanities, for its essential purpose is to disclose human life; but it also searches for data, groups them, and builds generalization from them. Though it may not be a science itself, its methods are similar to scientific methods, and are valuable in inculcating in the pupil a regard for accuracy and a reverence for truth. It corrects the formalistic bias of language by bringing the pupil into sympathetic contact with actualities and with the mind of man as it has reacted on his environment. It gives breadth, outlook, and human interest, which are not easily developed by the study of natural phenomena. Thus, as a theoretical proposition, at least, the assertion that the story of the life and the onward movement of men, not their language or their physical environment, should form the centre of a liberal course, would seem to leave little ground for argument."

But the most valuable part of the report of the Committee of Seven is their carefully reasoned advocacy of a specific course in history for secondary schools. For high schools having a four years' course they recommend four "blocks" or periods of history, each consisting of one year's work, to be taken up in the following order:

1. Ancient History, with special reference to Greek and Roman history, but including also a short introductory study of the more ancient nations. This period should also embrace the early Middle Ages, and should close with the establishment of the Holy Roman Empire (800), or with the death of Charlemagne (814), or with the Treaty of Verdun (843).

*Report of the Committee of Seven of the American Historical Association, 137 pp. Reprinted by the Macmillan Co., price 50 cts.

2. Mediaeval and Modern European History, from the close of the first period to the present time.

3. English History.

4. American History and Civil Government.

For a three years' course, three of these blocks should be chosen, the best selection being (1), (3) and (4), because English History may be taught in such a way as to include the most important elements of mediaeval and modern European history.

The convincing reasons for the adoption of such a course are set forth in detail, pp. 447-456, of the report. One point should be especially noticed. The short course in "General" history is emphatically condemned—as it was indeed by the Committee of Ten—as either so condensed and crowded, or else consisting of such broad generalizations, unsupported by sufficient data, that it inevitably fails to secure the best results.

The report of the Committee of Seven met with a most favorable reception, and is already exerting a wide influence. The best secondary schools in all parts of the country are falling into line with its recommendations. Colleges are modifying their entrance requirements. The leading publishers have put forth text books covering the ground of the four "blocks" of history in accordance with the suggestions of the report. It begins to look as if the much desired ideal of a uniform and systematic high school course will soon be realized for this study.

It is then in accordance with this trend of expert opinion and improved practice in historical study that the University of Georgia has modified its own courses, and asks the secondary schools to drop the prevalent unsatisfactory one year course in General history; to substitute for it an ampler course in Ancient history; and to undertake at least one additional year's work in history, to be divided between the history of England and of the United States. The effort to encourage and uplift historical study in the schools will surely win the sympathy and co-operation of every intelligent teacher. Any apparent objection or difficulty that may suggest itself will be fully answered by a careful perusal of the report of the Committee of Seven.

Text-books covering entrance requirements in History.

Ancient History—Myers: Revised Ancient History, Ginn & Co.; Botsford: Ancient History for Beginners, The Macmillan Co.; West: Ancient History, Allyn & Bacon.; Wolfson: Essentials in Ancient History, The American Book Company.

English History—Cheyney: A Short History of England, Ginn & Co.; Andrews: A History of England, Allyn & Bacon; Wrong: A History of the British Nation, Appleton's; Terry: A History of England for Schools, Scott, Foresman & Co.; Coman & Kendall:

A Short History of England, the Macmillan Co.; Niver: A School History of England, American Book Company; Montgomery: Leading Facts of English History, Ginn & Co.;

United States History—Montgomery: Students American History, Ginn & Co.; McLaughlin: History of the American Nation, Appleton's; Bruce: A School History of the United States, American Book Company; White: A School History of the United States, Silver, Burdett & Co.; Adams & Trent: History of the United States, Allyn & Bacon; Thompson: A History of the United States, D. C. Heath & Co.; Mace: School History of the United States, Rand, McNally & Co; Chambers: Higher History of the United States, University Publishing Co.

The above list is intended as suggestive rather than exhaustive. Any full equivalent will be accepted.

MATHEMATICS.

CHARLES MERCER SNELLING, A. M.

For admission to the Freshman class in mathematics, the requirements are:

Advanced Arithmetic, including the Metric System, one-half unit.

Algebra one and one-half units.

Plane Geometry one unit.

It is commonly believed by school men in this State that young men entering its colleges are better prepared in mathematics than in most of the subjects taught in the preparatory schools.

That the character of the work done in these schools has improved greatly in recent years I think must be admitted, and yet, it should by no means be taken for granted that there remains no room for further improvement.

I am not very wide of the mark in saying that a large proportion, perhaps a majority, of the young men entering the University of Georgia are deficient in ability to do more than apply rules in arithmetic and algebra and to depend almost entirely on memory in their work in geometry. Indeed I feel sure that many of our high school men would be greatly surprised to know how lacking in the power to draw logical conclusions in mathematics, is the average young man just entering college. This is painfully evident in the subject of Geometry.

It must be evident to even the most callous of us that all teach-

ing of mathematics but that of Geometry particularly, so far as the formation of habits of thought are concerned, is positively injurious unless it be done conscientiously and intelligently.

Inasmuch as the place of mathematics in the curricula of our schools and colleges is fixed, I shall attempt to do no more in this article than to direct attention to some considerations which I trust may be of value to those of my colleagues who are engaged in preparing young men for college work. And it goes without saying that the first of these is the equipment of the teacher, for as has been said by an eminent thinker on this subject; "All good teaching must flow from copious knowledge. The shallow fountain cannot emit a vigorous stream."

In addition to this it must be realized that the study of mathematics is a search for truth. Not only a search for a result which is true, but a search for truth in each step of the pathway to that result.

The moral value of the subject, which I esteem to be its highest value, cannot be effective unless the pupil is conscious of the absolute necessity for and the existence of truth in each step toward any result.

The pupil who has had the advantage of instruction from a teacher alive to these considerations must in the end have more respect for that which is genuine, a greater contempt for sham and dishonesty and an increased ability to distinguish between them.

As to the educational value of the subject; we must agree with De. Morgan when he says: "A finished or an accomplished reasoner is not the work of nature alone. The experience of every day makes it evident that education develops faculties which would otherwise never have manifested their existence. It is, therefore, as necessary to learn to reason before we can expect to be able to reason as it is to learn to swim or fence in order to attain either of those arts."

In his "Nature and Utility of Mathematics" Prof. Chas. Davies has the following:

"It is in the study of arithmetic that the mind wakes up, as it were, to the consciousness of its reasoning powers. Here it separates for the first time the pure ideal from the actual and begins to reflect and reason on pure mental conceptions. It is, therefore, of the highest importance that these first thoughts be impressed upon the mind in their natural and proper order so as to strengthen and cultivate at the same time the faculties of apprehension, discrimination and comparison and also to improve the yet higher faculty of logical deduction." All of which may with equal emphasis be applied to the entire course in elementary mathematics, but most especially to that part of it which finds a place in the secondary schools.

In another place he says that one of the chief objects to be

sought after in teaching arithmetic is "To give in abundance that practical knowledge of the use of figures in their various applications which shall illustrate the striking fact that the art of arithmetic is the most important art of civilized life."

Here, too, the central idea, the necessity of acquiring facility in the performance of their various operations, is as applicable to the other branches of mathematics as it is to arithmetic. Indeed, this familiarity and facility are so necessary that without them progress in the study of mathematics would be well nigh impossible.

Spontaneity on the part of the teacher is one of the very best aids which he can bring to his work.

By this I mean that familiarity and freedom with his subject and confidence in himself that will enable him to attack, in the presence of his class, questions which may not have been suggested to him in his work of preparation beforehand. He should also be apt at illustration so that the principle involved may be considered from various points of view.

Too often the teacher creates the impression that the difficulties of the subject are not real. In a spirit of perfect frankness he should, when he himself shall have encountered difficulties in the work, take his class into his confidence, explaining fully the obstacles which presented themselves to him and the means by which he finally overcame them.

This frankness will do much toward enlisting the respect and confidence of the pupil besides tending to bring the subject, as it were, nearer to him and help him to realize that failure on his part now and then, does not necessarily imply innate deficiency.

Much of the trouble which students experience in mathematics is traceable to a feeling that some how or other there is a difference between mathematical reasoning and "common sense."

Explanations should be freely given but given with the greatest care. The pupil should be brought to feel that the teacher is an advocate and he himself a judge and that he must accept no statement that is not based on a proof which appeals to his common sense. He should be encouraged to ask questions and express doubts. One boy who insists on knowing why it is that inverting the terms of the divisor and proceeding as in multiplication results in dividing one fraction by another, is worth more to the class than all those put together who may be willing to perform the operation without question.

The attention of the pupil must be commanded not in obedience to the wish of the teacher but because of the pleasure and dignity of thinking. By this means the teacher's work will be lifted out of the rut of drudgery and the pupil will grow in strength, independence and manliness.

I am rather of the opinion that the instruction as given in the secondary schools might be made somewhat more general in character. For example the theory of exponents cannot be thoroughly grasped until the student is able to use literal exponents with facility. Square and cube root will be better understood after the general theory of extracting the root of polynomials, based on a simple adaptation of the binomial theorem is explained.

The order in which subjects come in the high school course might undergo a slight modification to the pupil's advantage. What is known as advanced or higher arithmetic is full of difficulty to the average young person. It occurs to me that it might be well to postpone this work for the last year in school, when the student will have the advantages of maturer mental power and the enlarged view of quantity and the operations upon it which come from a study of algebra.

LATIN.

WILLIAM DAVIS HOOPER, A. M.

As the following remarks are intended chiefly as suggestions for those who are preparing students for the work of this institution and others in Georgia, several things may be taken for granted, as they are either included in the catalogues of the several institutions, or are more fully discussed in a paper which was read before the meeting of the Georgia Teachers' Association, at Cumberland Island ("Some Deficiencies in the Teaching of Preparatory Latin": Proceedings and Addresses of the Thirty-Seventh Annual Meeting, 1903.)

At the same time, it is believed that the suggestions given below will be as serviceable for those who will not enter college. It is now conceded on all sides that no difference should be made in the character of the teaching given those preparing for college and those preparing for business; the object is in both cases the same, namely, the teaching of Latin.

The requirements for admission to the Freshman class have been made as clear and brief as possible; they are very much too elementary, and will probably be advanced in the immediate future. At present they include, so far as the ground to be covered is concerned, four books of Caesar's Gallic War, and two Orations of Cicero, though one Book of the Aeneid may be substituted for the latter. These requirements are based on what may reasonably be

expected of a student of Latin in three years, and it is supposed that the work will be divided somewhat as follows:

The first year should be entirely devoted to some good beginner's book. It seems impracticable to name one, or even several of the many excellent ones now on the market, as, in this matter, so much depends on the view of the individual teacher. Some of them require more scholarship and initiative on the part of the teacher than others; some lead directly to the reading of Caesar, while others are a general preparation for prose reading; some require more time than others. With his particular problem to face, each teacher should select the book which best meets his needs; if he chooses from a list of the modern books he can hardly go far wrong, but it would be cruelty to the beginners to use the old books now happily almost extinct.

Only one caution with regard to its use: every such book contains things which are unnecessary. Every author has his particular hobby, and it is for the intelligent teacher to omit judiciously. Not only can time be saved, but the scholar's mind can be relieved of the burden of things which it is not necessary for him to know so early in his course. Of a piece with this is the fact that most of these books are divided into "Lessons" which are either too long or too short. Do not hesitate to adapt the book to your needs; the book was made for the teacher, not the teacher for the book.

The chief aim of the work of this year is to give the scholar a clear and firm grasp of the principles of the language: these are, primarily, its pronunciation and its forms. **Too much attention cannot possibly be paid to these.** The pronunciation of Latin is no longer an open question, from the scholarly standpoint or for the practical purpose which we have in view—the preparation of the student for college; all colleges use one pronunciation. This system of pronunciation is very simple and easy, and if the student never learns a false pronunciation—and he need never—he will be spared endless labor later.

A knowledge—a thorough and intimate knowledge of the forms is absolutely essential to progress in the study. I am inclined to think that most scholars find their chief difficulty in an ignorance of these. The teacher should therefore use every device that occurs to him to assist the memory, but should realize that it is, after all, chiefly a matter of memory, and that repeated review is necessary. However it is done, the scholar should be perfectly familiar with the forms. Along with the memorizing should go also an intelligent understanding of the meaning of each form. Of course, here, as everywhere, the best training is to be had by turning English into Latin. Most difficult and deceptive is the subjunctive mood. Beware of allowing scholars to learn that the sub-

junctive forms "mean" "may, can, must, might, could, would, should," because they generally do not.

With one year of faithful, careful study of this part of the work, the scholar should be ready for the reading of connected narrative. I am, personally, not in favor of reading Caesar at this point, for reasons admirably stated by the Committee of Ten and by the Committee of Twelve. I think it would be much saner to read Latin which is simpler and more interesting. Several books have been published to meet the recommendations of these committees. They are intended to be the equivalent of the four books of Caesar, and may well be used. Or the teacher may make his own selection from Viri Romae and Nepos, these to be followed by the Caesar. But the work of Caesar seems to have a proscriptive right to this place, and we must face the facts. Now, for the first time, the scholar really faces the problems involved in translation from one language into another. He should be shown clearly what translation is; the expression in English of a thought already expressed in Latin. Such a thing, therefore, as the so-called "literal translation" is an impossibility. It is of the utmost importance that the teacher use only good English, and require the scholar to do the same. Of course, the English should reproduce, as nearly as may be, the form of the Latin, and this rule should be departed from only when it is impossible to follow it and still make tolerable English: for instance, it is rarely necessary to change the voice or tense of a verb in translation; it is very frequently necessary to change the mood; inasmuch as the English has no case, it is almost always necessary to choose the proper preposition. Do not allow the scholar to be the slave of a particular preposition for the translation of a particular case. The genitive, for instance is, it is true, usually translated by means of "of," but this is by no means always true. Here, as everywhere, follow the golden mean: the translation should be as close to the original as possible, but not so close as to lead to bad English.

The chief difficulty in the work of this year is the indirect discourse, so characteristic of Caesar. A few hints, therefore, as to this bugbear may not be out of place. Explain, first, by an English example, the difference between the "direct" and "indirect" discourse, in English, turning the passage from one to the other before the eyes of the class; show the use of our catch-word "that", and the necessary change of the first and second person into the third. When this is clear, turn to the Latin and make the corresponding explanations: distinguish the principal and the subordinate clause; explain that the former takes always the infinitive, the latter always the subjunctive, but that the English does not make a difference in the mood, using the indicative for both; that the change of person

and of tense is the same as in English. There will be few difficulties to explain, as they arise, and the main difficulties will melt away, in a surprising manner.

Translation from the Latin should go hand in hand with translation into Latin, and preferably the same subject matter should be used. Excellent books may be had, the exercises in which are based on certain chapters and sections of Caesar and Cicero, or the teacher can easily write these himself. The advantages are many, outside of the exercise of translation; the scholar must read the Latin very carefully, for words and constructions; particular constructions may be stressed at will; the English may be varied in such a way as to emphasize the varying possibilities of translation; a beginning of Latin style may be made. This exercise should be very frequent, both oral and written, and should continue through the entire course. At present it seems to be greatly neglected, to the manifest detriment of scholarship.

One of the following books is suggested if the teacher prefers a text.

Barss, J. E. Writing Latin. (University Pub. Co.)

Bennett, C. E. Latin Composition. (Allyn & Bacon).

Collar, W. C. Practical Latin Composition. (Ginn & Co.).

Daniell, M. G. New Latin Composition. (B. H. Sanborn & Co.)

D'Ooge, B. L. Latin Composition. (Ginn & Co.)

Moulton, F. P. Preparatory Latin Composition. (Ginn & Co.)

Pearson, H. C. Latin Prose Composition. (A. B. C.)

Riggs, Scott. In Latinum. (Scott, Foresman & Co.)

If the work of the first year has been well done, the required four books of Caesar, or the equivalent, should be covered in the second year. Most of the beginner's books are so arranged that the student is well equipped with the vocabulary used in Caesar, and can read it rapidly. Every effort should be used to make the rather dry account of battles and sieges interesting, by maps and plates which are now lavishly employed in the best editions. The teacher, at least, should read carefully the accounts in these books of the organization of the army under Caesar, and of the geography and antiquities of the countries mentioned. He should be thoroughly familiar with the rank and functions of the civil and military officers named, and should have such a knowledge of Caesar's civil and military career, and his political ambitions, as to throw light on the account.

In the third year, the reading of Caesar should be begun. The work of the year will be of the same nature as that of the second year. It will be necessary for the teacher to equip himself by thorough acquaintance with the history of the man and the time, with the organization of the courts and of the political machinery.

It should not require the whole of the third year to read the two orations of Cicero required, even allowing for the possibility that it has been found impracticable to complete the Caesar in the second year. In any event, a considerable portion of the year should be left free for other reading: and it is very desirable that this should be in poetry. The Aeneid of Vergil is perhaps not too difficult for students at this stage of advancement, but his Bucolics are entirely unsuited to such immature minds; and the poetry of Horace is quite too difficult. If Vergil is read, great stress should be laid on the metrical reading of the Latin, and of course, quite as much attention must be given to literary and antiquarian matters as in the case of Caesar and Cicero.

Correspondence on any subject connected with the work is most cordially invited, and will have my best and most prompt attention.

GREEK.

WILLIS HENRY BOCOCK, A. M.

Greek is one of the subjects in which the University of Georgia asks preparation of those students who wish to pursue the course of study leading to the degree of Bachelor of Arts.

During the last quarter of a century many studies hitherto not embraced in school curricula have gained recognition as possessing value as instruments of training and culture. Although the curriculum of many schools is overcrowded, a true perception of educational values is gradually emerging, and the competition among subjects of study has resulted in improved methods of teaching. The teaching of Greek has had its share of this improvement. As an instrument of training and liberal culture it has maintained its high rank. According to figures furnished by the United States commissioner of education, the increase in the number of students studying Greek in the high schools of the United States between the years 1890 and 1898 was ninety-four (94) per cent. (The increase in the Latin enrollment was still greater, and relatively greater than the increase in any other study. "Nearly one hundred and seventy-five thousand more pupils were studying Latin in 1897-98 than in 1889-90.") In the decade 1893-1903, the increase in the Greek enrollment in the country at large is stated to have been one hundred and thirty-five (135) per cent.—Mr. Gladstone once said in an address to the boys of Eton College:

"I say with confidence, that my conviction and experience of

life leads me to the belief that if the purpose of education be to fit the human mind for the efficient performance of the greatest functions, the ancient culture, and, above all, Greek culture, is by far the best, the highest, the most lasting, and the most elastic instrument that can possibly be applied to it."

An interesting official opinion to the same effect expressed by the Philosophical Faculty of the University of Berlin will be found in the inaugural address of the distinguished Professor of Chemistry, Prof. A. W. Hofmann, on assuming the Rectorship of the University (translation published by Ginn & Co., Boston). It is to be hoped that so valuable an instrument of training will continue to be highly appreciated in the high schools of Georgia.

The amount of preparatory work in Greek which the University asks of candidates for the Freshman class is as follows:

1. Attic prose forms (including " μ " verbs), and elementary syntax, as treated in any good book for beginners, with the principal parts of about one hundred common irregular verbs.
2. Xenophon's *Anabasis*, Books I. and II., or an equivalent amount of simple Attic prose.

Some of our teachers have stated that they can find time to do well only one book of Xenophon's *Anabasis*. This, done thoroughly, affords the pupil a far better foundation for subsequent work, and, meanwhile, far better training, than a hurried and half-understood reading of two books. On the other hand, the requirements of the Association of Colleges and Preparatory Schools of the Southern States, of which most of the leading colleges of the South are members, are "three books of the *Anabasis*, with accompanying work in grammar and prose composition." How soon will the schools of the state enable the University of Georgia to adopt these requirements? Our sister states seem to find this amount of work feasible.

I have been asked to make some suggestions to teachers concerning methods of instruction. For several reasons, I hardly feel competent to do this. Experience is the great teacher, and I have had little experience in teaching beginners, and that long ago. If a teacher is thoroughly prepared for his work, (and nothing will take the place of thorough preparation, thorough scholarship,) he will teach in his own way far better than I could tell him how to do it. I take it for granted that the reports of the committees of "Ten" and "Twelve" are in the hands of the teachers of the state. Much valuable guidance will be found in "*The Teaching of Latin and Greek*," by Professors Bennett and Bristol, of Cornell, published in the American Teachers' Series by Longmans, Green & Co., 1903. (Prof. Bristol's first chapter is entitled Pronunciation; Chap. II, The Beginning Work; Chap. III, Xenophon and Other Prose Writers; Chap. V, Greek Composition; Chap. VI, Geography and History.)

Modern text-books should be used. Antiquated books are still used in some of our schools. Careful and accurate pronunciation (not the modern Greek) should be insisted on from the beginning. The written accents should always be used in writing Greek words, and should be orally observed as stress accents. Proper names should be pronounced with English sounds and accented according to the Latin rules of accent. It is surely needless to say that drill on forms must be constant, both oral and in writing. Dual forms may be omitted until met with in reading. The principal parts of common verbs should be recited repeatedly, and aorist synopses are not to be neglected.

In reading the pupil should be taught to determine the meaning in the order of words of the original. Translation into good English is a different (highly important) matter. The Greek text should be read aloud, with careful attention to word-groupings and pauses. Regular exercises in translating English into Greek, both oral and written, are indispensable. They should be based on the text read, but should furnish systematic drill on forms and the leading rules of syntax. In reading the *Anabasis*, attention to geography, history, antiquities, will greatly increase the student's interest in the narrative.

Constant repetition of the fundamental forms, frequent reference to common constructions, patient analysis of difficulties, clear exposition of meaning with translation into good English,—these are worth more than rhapsody.

Should teachers desire it, I hope in a future issue of the *Bulletin* to go more into detail, perhaps with specific recommendation of text-books.

GERMAN.

JOHN MORRIS, A. M.

The first year's work in German should be largely oral. By this means, one can insure correct pronunciation and a fairly full vocabulary. Such a method book as the University employs, Shanhoofd's *Lehrbuch*, (first 20 lessons), Collier's *Eysenbach*, Bernhardt's *Sprach-und Lesebuch*, Stern's *Studien und Plaudereien*, Berlitz's *Erstes Buch*, would be best as a guide. Then the student might read and pause about 100 pages of elementary prose.

The second year's work should include considerable reading. The method book should be completed and regular exercises written and corrected.

FRENCH.

JOSEPH LUSTRAT, Bach. es Lett.

The principal aim of the study of French or Spanish in the preparatory schools should be:

First, to give to students a practical rather than a theoretical knowledge of the tongue studied, and, Second, to form an adequate introduction to a more thorough study of these languages and of their literature.

With this end in view, the first year course should be in great part conversational and only essentials of grammar ought to be taught.

Conversation, easy translation from English into French or Spanish, reading of simple texts, should form the bulk of the instruction in the first year.

The object of the second year course in French or Spanish should be to lead the student to understand fully the spoken and the written language, to enable him to read easily at sight literary or scientific works, and to write with a fair degree of accuracy.

The work in the second year should consist

1st. Of frequent talks in French or in Spanish by the professor to the students.

2nd. Of exercises in translation and composition illustrating the principles of the grammar and of the most frequent rules of syntax.

3rd. Of short summaries in French or Spanish of the talk delivered in the class room by the professor.

4th. Of the reading in or outside of the class room of works of writers of the 19th century, carefully selected by the professor.

The professor of Romance Languages at the University invites correspondence on the subject and will gladly make all suggestions or give all informations which may be desired and asked of him.

PHYSICAL GEOGRAPHY.

HENRY CLAY WHITE, B. Sc., Ph. D., F. C. S.

One Unit May Be Offered.

The course in Physical Geography, in extent and character, should be the equivalent of that presented in Davis' "Elementary Physical Geography" (Ginn & Co.), Dryer's "Lessons in Physical

Geography" (American Book Co.), Tarr's "New Physical Geography" (The Macmillan Co.) or Gilbert and Brigham's "Introduction to Physical Geography" (D. Appleton & Co.), to the prefaces, several-ly, of which the instructor is referred for many valuable suggestions. The instruction should be, as far as practicable, by the "laboratory method." Maps, charts and topographical models should be freely used in connection with the instruction. The physiographic features of the region in the neighborhood of the school, or of others to which excursions may conveniently be made, should be studied carefully and mapped neatly and accurately by the pupils individually. The pupil should learn to use the simpler meteorological instruments and to make systematic records of their indications. Weather charts should be studied and made by the pupils and their significance be understood.

BOTANY AND PHYSIOLOGY.

JOHN PENDLETON CAMPBELL, A. B., Ph. D.

The necessity of some science courses in all grades of school work is a point now generally admitted. The only question is what kinds of science work can best be done in any particular school. The one great requisite is that the work be genuine; that the pupil be brought into direct contact with nature; that he shall see, feel and handle the object that he is studying and make his own observations the basis of reasoning, no matter how simple. If these conditions are met the subject matter is of secondary importance.

Physiology is more generally taught in Georgia schools than any other branch of science. But in few schools are the conditions favorable for a course in physiology that can have any real scientific value. The only scientific work that can be done is usually what a pupil can observe on his own body, and that at best is fragmentary. To extend the work much beyond this requires a special laboratory, and costly equipment, as well as a specially trained teacher. The only justification of the courses commonly given is the value of the information imparted, rather than the training furnished.

Two physiology texts stand out from among those designed for high school use. Peabody's "Physiology and Anatomy" (Macmillan \$1.10) and Macy's "Physiology" (Amer. Book Co.) The former is to be commended for its general plan, order of topics and the considerable amount of comparative Physiology that it contains. The latter is excellent by reason of the large number of experiments and

demonstrations suggested, and also because of the great extent to which the nervous system is treated in explaining the activities of other organs.

For the purpose of giving a genuine scientific training, Botany is the subject best adapted to school work. The great advantages which it has over other scientific subjects are the ease of obtaining illustrative material, and the small expense necessary to provide all needed apparatus. Botany may best be taught to children from the nature study view-point, and as part of a nature study course. For teachers engaged in this work, Hodge's *Nature Study and Life* (Ginn & Co.) is indispensable. But for the high school pupil something more extended is necessary. In some cases the attempt is made to trim down a university course, and fit it for the high school, but this plan, beginning with microscopic plants that form no part of the pupil's environment, is not to be commended. For high school pupils, a course should pass from known to unknown, and only familiar plants should be used as its basis.

Every effort should be put to make the pupil feel that he is studying plants and not books about plants, and he should be trained to view them from as many standpoints as possible. He should be taught to look upon plants as living organisms, rather than as objects to be torn up, classified and thrown away. He should learn to correlate form and function, and to recognize that plants have their place in nature, and are engaged in a struggle for existence. Special care should be taken to keep a course in Botany from degenerating into a dry drill on technical terms. There should be enough of this to enable a pupil to describe a plant clearly and intelligibly and no more, and no term should ever be introduced until actually needed.

Frequent excursions should be made to places of botanical interest, and the pupils should themselves collect all the material that they use for structural work. As an incident to this, a plant museum should be established and in a few years any school may have a fairly complete collection of the local flora, that will be of great use in furnishing illustrations of leaf forms, leaf arrangement, stem habits, inflorescence, floral structure, fruit, etc.

A course in Botany may be made educative and of genuine value in shaping the pupil's point of view without any expensive apparatus at all. Teachers who are interested in developing a course under such conditions will find it to their interest to examine Andrews' "*Botany All the Year Round*," (Amer. Book Co. \$1.00). This book being the work of a Georgia teacher will be found especially well adapted to Georgia schools. MacBride's *Lessons in Botany* (Allyn & Bacon) is another good book designed to fill the same want.

If the school can have a room for special use as a laboratory, and an equipment of compound microscopes and other apparatus, of course more extended and better work can be done. Teachers working under these conditions will find Bergen's *Elements of Botany*, Southern States Edition (Ginn & Co.), or Stevens' *Introduction to Botany* (D. C. Heath & Co.), well adapted to their needs. Both are fine books and a choice between them is largely a matter of personal preference.

Bailey's "Botany" (Macmillan) is another text that will yield good results in the hands of a well trained teacher. But unless the teacher has sufficient knowledge and ingenuity to devise laboratory exercises, and conduct field work, it may easily degenerate into a mere book course that will be of no more value than any other subject that is simply memorized.

The teacher who wishes to study the pedagogical side of this subject will find Ganong's "The Teaching Botanist" indispensable.

CHEMISTRY.

HENRY CLAY WHITE, B. Sc., Ph. D., F. C. S.

One Unit May Be Offered.

Instruction in Chemistry in the secondary schools, whether designed as a preparation for college or as useful training of those who will not enter college, should be undertaken with a clear understanding of the peculiar requirements which it involves and with provision made to meet them. Otherwise, it had best not be undertaken at all. In the matter of time, ordinary school "Periods" will not suffice; not less than one hour should be allotted to each regular exercise. Proper facilities (not, necessarily, costly) of laboratory, apparatus and materials should be supplied. The instructor should be one trained in natural science and, especially, in rational and properly conducted laboratory work; a teacher, excellent otherwise, may not be a satisfactory instructor in natural science for lack of the special training required. The number of pupils instructed at one time should be small—not more than ten—and ample time should be allowed the instructor for necessary laboratory preparation. The objects of the instruction should **not** be to impart a large amount of information; to make the pupil acquainted with a large number of interesting facts or curious phenomena; the performance of many striking experiments, or the burdening of

the memory with "symbols" and "formulas." Using the facts and phenomena with which chemistry deals the main object should be to develop and train the powers of accurate observation, of purposeful and orderly experimentation, of clear thinking, of exact reasoning, and the truthful and honest recording of things seen and done.

This may be accomplished, under guidance of a competent instructor by the study, at first hands, by the pupil of a few chemical elements and compounds and a few chemical reactions—qualitative and quantitative. A comparatively small number will suffice to give the pupil knowledge of the characteristics and the fundamental "laws" of chemical action—provided, the doing and thinking, in connection with the study, be actually that of the pupil, personally, and be accurate and thorough. This knowledge acquired, and the proper intellectual habit developed by this method of acquisition, a larger knowledge of chemistry may safely be left for the college course or subsequent reading. Without this accurate knowledge and this essential habit, no advantage whatever is gained by multiplying the topics assigned for study. A good, elementary text-book should be used in connection with the instruction but it is advised that, ordinarily, attempt be not made to cover the entire matter of the text. Thorough study of a few topics, with much illustrative laboratory work, is recommended.

Superficial study (which is, commonly, all that is possible in the usual school year) of the large quantity of matter included in most text-books, is worse than valueless, from the view-point of both pedagogy and chemistry. The study should be prosecuted largely in the laboratory by accurate work by the pupil personally, under guidance of the instructor. The instructor should require that the laboratory work be careful, neat and orderly with a clear understanding of its objects in all cases. Laboratory work in chemistry, badly done, will cultivate bad habits, as that well done will cultivate good habits, intellectual and other. The "laboratory" need not be a costly or formidable affair. A well-lighted, well-ventilated room, plain tables with a source of heat, a supply of water, simple apparatus and inexpensive chemicals, suffice for very excellent work. The Professors of Chemistry in the University will be most glad to correspond with those interested in regard to the fitting and furnishing of laboratories suitable to local conditions, and, if desired, with instructors in regard to details of instruction.

The University will accept as an approved course in chemistry among its entrance requirements one year of work such as above indicated in which the equivalent of five periods (30 minutes each) per week is given, not less than two-thirds to be laboratory work.

Numerous excellent text-books on elementary chemistry are published. Some, in the judgment of the writer, are unsuited to

the present conditions of the secondary schools in Georgia; some are too extensive, some too advanced. Of the others, any may be used to advantage by a competent instructor. A partial list of good, smaller texts is appended as suggestive to the instructor in his selection.

If the approved course in chemistry is offered for entrance the certificate of the school to the University must state explicitly the text used, the portion covered and the amount and character of work done by the pupil.

Elementary Chemistry (Clarke & Dennis), with Laboratory Manual (Dennis & Clarke)—American Book Co.

Experiments for students in General Chemistry (Smith & Kellar)—Blakiston's Son & Co.

A Laboratory Chemistry (Moore)—J. B. Lippincott Co.

Elements of Chemistry, with Laboratory Manual (Williams)—Ginn & Co.

Elementary Chemistry (with Laboratory Manual, (Bradbury)—D. Appleton & Co.

DRAWING.

ERNEST LEE GRIGGS.

It is intended to give here only a few suggestions in regard to drawing work in the primary and secondary schools.

It is suggested that all work in linear or mechanical drawing be omitted until after the pupil has taken some work in geometry, and it is probably better for the present, at least, that this work be left with the colleges.

Free hand drawing on the other hand cannot be commenced too early. Even the little tots will be greatly interested in making tracings of outlines and drawing very simple copies. Children should be taught largely at the blackboard where they will gain a greater freedom of movement and avoid any tendency to do tiny drawing.

It is well to thus early lay a foundation for the future training of the mind, the eye and the hand, so that the hand may become so skillful that it alone will execute while the mind and eye are left free to plan and compose.

A progressive course of drawing may be mapped out commencing with outline drawing and straight line designing with the pencil, and proceeding through designing with curved lines, and copying light and shade from the flat to drawing from the model, using very simple models at first, and to sketching from nature.

It is well in designing to require close familiarity with the more important conventional units as the loop, spiral, scroll, etc., before using them, and in all designs see that there is balance and fitness.

To develop the pupil's observation, which is so woefully neglected, frequent lessons should be given in drawing from memory, using as subjects the things of every-day life.

To the work with the pencil there can later be added that with charcoal in studying light and shade especially, and that with the brush used both as a pencil in composition and for color work. The study of composition commencing with the brush and ink in line composition will follow the pencil designing with conventional units.

Regular periods should be given to the study of drawing as to other subjects, but time can well be economized by co-ordinating drawing with work in nature study, in geography, in botany, etc.

It is not deemed advisable to discuss in detail the methods of instruction in free hand classes. Many good teachers obtain excellent results by very varied procedure, and it is best in this subject to leave the teacher at liberty in the methods to be used.

Correspondence, however, in regard to reference books, courses, systems, etc., is cordially invited.

PHYSICS.

ANDREW HENRY PATTERSON, A. B., A. M.

With the possible exception of Botany, Physics is that one of the natural sciences which is best adapted to be taught in the schools. It serves as an introduction to chemistry, geology and astronomy, for none of these may now be studied to the best advantage without some knowledge of the principles of Physics. Beginning with the somewhat vague and far-reaching science known as "Natural Philosophy," we have pruned it down here and there, lopping off unnecessary parts, and have developed the remainder into a strong and unified body of scientific truth known as Physics. Prof. Tyndall defined Physics as "that portion of Natural Science which lies midway between astronomy and chemistry," which is true enough, but he considers it as such largely because it deals with bodies of matter intermediate in size between the "enormous masses" of astronomy and the atoms and molecules of chemistry. This is not the modern conception, which looks at Physics not as the science of matter, but as the science of energy, and regards matter merely as the vehicle of energy.

Physics should be taught in the schools by using the large number of facts familiar to even the younger pupils as building material out of which to erect a foundation for a later and more extended knowledge of the science. Every child has observed the ordinary phenomena of heat and cold, of falling bodies, of friction, of the use of levers and simple mechanical appliances, of echo, of color, of the rainbow, of the toy magnet, of the use of lenses in spectacles, of dew and frost, of thunder and lightning, etc.

Using this knowledge, and that gained by simple experiments, by a quick induction the laws of physics are stated, and the deductive parts of the science may begin. As Prof. Gage aptly says, life is too short to insist upon young pupils spending too much time in the inductive process,—in re-discovering and re-stating laws which have been known for many years.

There are a few principles concerning the teaching of Physics in the school which it would be well to heed. It is assumed that but one year's time can be given to the subject. Even though that be the case, there is no reason why it may not be taught successfully.

First, make the subject interesting, and thus inculcate a love for natural science. To accomplish this, use freely the examples of the application of physical laws seen in our daily life.

Second, strongly cultivate the habit of close observation on the part of the children, and encourage them to ask questions about the phenomena of nature.

Third, give some laboratory work, no matter how limited in character it may have to be at first, owing to the lack of apparatus and other equipment. In the laboratory work, omit the long and tedious experiments, and those very difficult of manipulation. The lack of apparatus should not deter any teacher from beginning the teaching of Physics. It is remarkable how much apparatus may be gathered together without much expense. Below will be found a list of apparatus suggested for purchase.

It is of the first importance to a teacher of Physics to have a small workshop, where he may make and repair apparatus. A bench with a vise, a few tools,—saw, plane, pocket knife, hammer, screw-driver, small chisel, mallet, brace, bits, several files for wood and metal,—together with a few simple supplies, such as wire, twine, nails, tacks, screws, glue, etc., are all that are absolutely necessary at first, and it is surprising how much apparatus may be constructed with these simple means.

Among the many good text books and laboratory manuals in Physics, it is difficult to select the best one. In fact, the best one for use in one school may not be the best one to use in another. It depends largely on the time given to class room instruction, on

the time given to laboratory work, and on the laboratory equipment.

Among the very best text books, however, may be mentioned Carhart and Chute (Allyn & Bacon), Hoadley (Amer. Book Co.), Gage's Introduction to Physical Science (Ginn & Co.), Henderson and Woodhull (Appleton's), Wentworth and Hill (Ginn & Co.), Higgins' Lessons (Ginn & Co.), Sharpless & Phillips (Lippincott), Houston (Eldredge & Bro.), Avery (Amer. Book Co.).

As laboratory manuals we should mention Chute (D. C. Heath & Co.), Coleman (Amer. Book Co.), Shaw's Physics by Experiment (Maynard, Merrill & Co.) and Gage (Ginn & Co.).

As to the laboratory work, it would be well to use a text and manual which conform best to the apparatus now on hand, or else to purchase the apparatus to suit the text and manual selected. The following dealers will supply estimates on apparatus, and will send catalogues on application:—C. H. Stoelting Co., 31-45 W. Randolph street, Chicago; Franklin Educational Co., Boston; L. E. Knott, 16 Ashburton Place, Boston; A. W. Hall Scientific Co., 141 Franklin street, Boston.

The following laboratory equipment is suggested, and with this from 4 to 8 students may work at once, though not all, of course, on the same experiment.

Mechanics.

Two 30-cm. rulers, 22c; Two meter rods, 50c; Two Hardwood Prisms, 16c; Steel Bicycle Balls, 10c; One Micrometer Caliper, 13 mm. metric, \$4.50; One Spherometer, reading to $\frac{1}{100}$ mm. \$4.00; One set weights, 1 grm. to 1 kg., \$2.50; One set weights, .01 to 1 grm, 40c; One Specific Gravity bottle, 50-cc., 60c; One Glass U shaped tube for demonstration of Boyle's Law, 75c; One lb. mercury, 90c; Six glass tumblers, 25c; Six glass tubes, 1m. long, and $\frac{3}{16}$ inch inside diam., 20c; Two Screw Pinchcocks, 30c; One Hydrostatic Balance, \$5.00; Six feet rubber tubing, $\frac{3}{8}$ in. diam., 50c; One Air pump, \$3.75; One Barometer tube for Torricelli's vacuum, 30c; Two Iron Balls for pendulums, 15c; Total for Mechanics, \$24.56.

Heat.

Two Flasks, 100-cc., 20c; Four Thermometers, 110° to -10°C, \$3.00; Two lbs Shot, No. 6, 25c; Two Calorimeters, nickel plated, \$1.00; Two Iron stands, 2 rings each, 90c; Three sheets brass wire gauze 4x4 in., 24c; Twenty-five grams pure Paraffine, 5c; Two nests beakers, Nos. 1 to 3, 64c; Two Florence Flasks, 12 ounce, 30c; Two Florence Flasks, 8 ounce, 24c. Total for Heat, \$6.84.

Sound.

One Sonometer with pulley for weights, 2 strings, \$5.40; One Resonance tube, glass, with sliding rod and piston, \$1.50; One Tuning Fork, C 128, \$1.87; Two Tuning Forks, C 256, \$2.24; One Tuning Fork,

A 426, \$1.12; One Tuning Fork, C 512, \$1.00. Total for Sound, \$13.13.

Light.

Four Plane Mirrors, 2x4 inches, 60c; Two Double Convex Lenses, 10 cm. Focus, 20c; Two Double Convex Lenses, 15 cm. Focus, 20c; Two Lens supporting blocks with springs, 40c; Two pair Screen and Pin Supports, 44c; Two Walter Smith's School Squares, Medium, 15c; One Double Convex Lens, 8 cms. in Diam., and 20 cm. Focus, \$1.25; Two Concave Mirrors of Brass, Nickel-plated, \$1.00; Three Triangular glass Prisms, 4 inches long, 90c; Two Plate glass pieces for refraction, 52c; One pound Paraffine Candles, 12s, 15c. Total for Light, \$5.81.

Magnetism and Electricity.

Iron filings, fine, 5c; Twelve Steel Knitting Needles, 15c; Six Bar Magnets, 6 inches long, \$2.00; Four Compasses, 2 inches diam., 88c; Two Square feet Sheet Zinc, 1-16 in. thick, \$1.00; Six Lead strips, 1x10 cm., with wire, 60c; Two Square feet Sheet Copper, \$1.25; Six Glass Battery Jars, 4x5 inches, \$1.00; Four Porous Cups, 5x10 cms, 60c; Two Commutators, \$1.20; Twelve Brass Double Connectors, \$1.40; One Pound Copper Wire No. 20, 55c; One-fourth Pound Copper Wire No. 30, 40c; One-fourth Pound German Silver Wire No. 24, 46c, One-fourth Pound German Silver Wire, No. 30, 80c; Five Pounds Commercial Sulphuric Acid, 40c; One Slide Wire Wheatstone's Bridge, \$2.80; One Set of 8 resistance coils, \$3.00; Four Gravity Cells, 6x8 complete, \$4.00; Ten Pounds Copper Sulphate, 80c; Two Resistance Boxes, 1 to 40 Ohms, \$16.00; One Tangent Galvanometer, \$6.75; One Sensitive D'Arsonva Galvanometer, \$17.00. Total for Magnetism and Electricity, \$62.79.

Equipment That May Be Bought at Home.

Beeswax 10c; Rosin 10c; Cotton Cord, strong, 10c; Fish line cord 10c; White thread, Nos. 40 and 20, 10; Stick red Sealing wax, 5c; Iron Wood Screws 5c; Blank News paper, 10c; Carpet tacks, 5c; Claw hammer, 50c; Tinner's shears, \$1.25; Small soldering iron and solder, 50c; Saw 75c; Screw driver 25c; Plane 75c; Chisel and mallet 50c; Brace and bits \$1.50; Files 50c; White pine or poplar lumber, 50; Vise 75c; Tables, stools and shelving \$40.00. Total \$48.50.

Much apparatus, like a simple galvanoscope, etc., may be readily manufactured. Hammel's Observation Blanks (Amer. Book Co.), will be of help in the manufacture of simple apparatus, and will save some expense in the purchase of apparatus. The prices given are approximate. Five dollars should be allowed for freight and drayage. Including this, the equipment suggested will cost about \$170.00.

If only a small amount of money is available, purchase the apparatus in Mechanics first, and make it a full equipment before proceeding to Sound, etc. The quality and not the quantity of laboratory work is what counts.

Agriculture in the High Schools.

JAMES MARTIN JOHNSON, B. S., Ag., M. S., Ag.

There should be a growing interest in both pupil and teacher in our high schools in those branches of study which tend to develop the intellect and at the same time make it easier for the instructed to gain pleasure and profit from any of the more common of life's callings.

The value of courses in manual training are recognized by leading educators. The educated mind backed up with the trained and skilled hand will accomplish a greater work with less fatigue than it otherwise could.

The trained and skilled hand becomes more efficient as it is presided over and directed by the well developed mind. Thus there is a mutual relationship existing between the efficiency of head and hand in their development, and the performance of their respective works. The thinker needs a trained hand. The manual worker also needs a trained mind.

The high school should not exist for the thinker alone nor for the manual worker only. It must be planned, developed and maintained for both the brain and muscle worker.

The coming generation of farmers, those who are to re-establish re-build and re-people our rural homes and to renovate our hungry soils, cultivate our crops and garner the rich and profitable harvests which the two hundred and twenty-three thousand farms of Georgia are ready to yield up, must belong at one and the same time to the band of thinkers and the throng of workers. The boys and the girls who are to remain on the farms of the state and develop their agricultural wealth have a double right to an education. This right is that of the thinker combined with that of the doer. A stronger claim is difficult to imagine. The right of the citizen to the education which will make it easy for him to gain pleasure and profit from his chosen line of work and at the same time render more efficient efforts for the betterment of mankind in general is established.

It is now the duty of the public and private schools including those of country, village and city to give instruction in these helpful lines. It is our desire to make the chief line of thought in this article relate to the welfare of agricultural people. Placing agriculture among the branches to be taught in the common schools is a step in the right direction—limited as the course must be. But from the very nature of our common schools, the great number

of pupils to be taught, the limited number of teachers, and the crowded condition of the school houses, this course must be very limited in scope. For those who can go no further this course must suffice, at least at the present, or until something broader and fuller is brought to the pupils in the common schools.

The teacher is the avenue through which this broader and fuller course will come. The teacher will get this broader and fuller course while other knowledge is also being gained. This other knowledge will be gained quite largely in the high schools throughout the state. It is now very essential that agriculture have an important place in the courses given in our high schools.

CAN AGRICULTURE BE TAUGHT SUCCESSFULLY IN HIGH SCHOOLS AS WE HAVE THEM?

The answer to the above question depends very largely upon the general make-up of the corps of teachers. If their education has been such as to constantly minimize the dignity and importance of agriculture as an avocation, the zest with which this new branch is taken up may not insure speedy success. On the other hand place this new branch in the hands of an energetic, enthusiastic teacher who has spent a considerable portion of the formative period of his life in the country and in daily contact with affairs pertaining to agriculture, who has already made a study of these principles or is willing to study them as the classes are to be taught, the venture can not prove other than a success. In some schools which are now giving courses in the natural sciences the work of instruction in agriculture can be added to these departments without interfering with the grade of instruction. In other schools it will be desirable to have another teacher added to the corps. In addition to agriculture this teacher may have charge of all the natural science work. When once the school authorities determine to put agriculture in the high school course a place will be made for it and a suitable teacher found for the new division.

WHAT SHALL BE GIVEN IN A HIGH SCHOOL COURSE IN AGRICULTURE?

Botany, zoology, geology or physical geography and nature study should by all means constitute parts of the agricultural course. There are other branches which should not be excluded from the course, but those mentioned should certainly be included in the chosen list of studies.

The purely agricultural work should be arranged under three distinct sub-heads, and so planned that there is a logical order in the work. The three sub-heads are:

1. The Soil; the soil and the plant.

2. The Plant; most common diseases and insect enemies of plants; farm and orchard crops.

3. Animals of the Farm; the farm dairy.

Under No. 1. The origin, formation, composition and physical properties of soils should receive first attention. This should be followed in turn by a study of the moisture holding capacity of different soils. How water is held in soils. Influence of water upon the plant food in the soil. Soil draining, terracing, improving soils. The action of manures and fertilizers upon different types of soils. A study of tillage methods should also come in at this point.

Follow this up by a study of the root system of some of our more common agricultural plants. The way the plant feeds and the condition in which the food is taken into the plant. How and why some plants increase the fertility of the soil while others do not. Study a few crop rotation systems.

Under No. 2. Study the way the plant feeds from the atmosphere and what it gets from the air. Water in the plant and its influence upon growth. Methods of propagating plants. Seeds and their selection, preservation, and planting. Principles and methods of tillage. Causes and nature of plant disease and their prevention. Pay most attention to those diseases prevalent in the school neighborhood. Study the common insect enemies, also with a view to showing the pupil how to control such pests. Now take up a study of the farm, garden and orchard crops suited to the soil and climatic conditions peculiar to the neighborhood.

Under No. 3. Consider the various classes of farm animals as horses, mules, beef and dairy cattle, hogs, sheep, poultry and pets. Study principles of breeding only briefly, give more time and attention to the care and management, feeds and feeding, watering and sheltering of the animals. A few weeks should be given to a study of farm dairying.

The subjects indicated can and should with all propriety be taught in the high school. The teacher will perhaps want to introduce a greater variety but under present conditions, or as conditions promise to be during the next few years it will be a mistake to attempt to crowd a wider range of topics into the course.

A good text book should be adopted and followed as a guide. Laboratory work, especially with soils, plants, and plant enemies must re-inforce the text book. The equipment for the laboratories need not be very elaborate or expensive at the outset. The greater number of the necessary pieces can be prepared in the manual training department. Boxes, secured from the village store, when cut down may be used as trays in which to test seed, propagate plants, start cuttings and conduct other interesting experiments with plants and soils. Trays for studying the germination of seeds may con-

sist of shallow boxes, ordinary shallow tin or sheet iron pans or plates. These of course should hold some water and be provided with suitable material upon which the seed are to rest and with which they will be covered. Heavy blotting paper, thick, heavy cloth, as canton flannel or felt may be used to advantage for this purpose. Ordinary flower pots which cost but very little will serve important purposes in this plant and soil laboratory.

The action of different soils to moisture may be studied with apparatus consisting of a shallow water tight tray and a simple rack or small stand in which a set of from three to ten student-lamp chimneys are arranged and filled with the soils to be investigated.

A great many other simple and easily constructed devices will suggest themselves to the teacher and interested pupil as the work progresses.

A window on the sunny side of the school room may afford a place for the apparatus used in starting plants, germinating and testing seed and for the carrying out of other important lines of work.

Material for laboratory work may be collected at odd times throughout the year. A better plan though would be to detail a few pupils each week to look out for and prepare plants, soils and other material for these exercises.

A piece of ground—for a class of twenty pupils a plot forty by fifty feet will do—should be set apart for the use of the class in agriculture in conducting experiments. One portion of this land may be utilized for the purpose of demonstrating the influence of fertilizers upon plant growth, while on another, various methods of preparing the soil, planting seeds and cultivating the crop may be tested. Other experiments will suggest themselves during the progress of the course.

The pupils should be encouraged to make plans for the experiments to be conducted in the laboratory and also on the outside area. They should perform practically all the manual work connected with the preparation of the soil, planting of the seed, cultivating and harvesting the crop, to make the final weighings, and record the results. Each pupil should keep notes of the work and know why it is being done. Remember that the chief object of giving the course in agriculture is not merely to teach a few principles from a text book. That is important but other things are of even greater value in educating the pupil. Development of the power of observation; stimulation of the spirit of investigation and the encouragement of the disposition to record and weigh results are among the strongest of reasons for the introduction of agriculture and nature study in high schools. The final result of all this will be to develop a race of farmers who will be in love with rural life,

who will grow with their country and who will live in close accord with the highest of laws.

The equivalent of five class periods per week for one half year should be given to the work of agriculture. The work should co-ordinate with botany and nature study, and should extend through one entire school year. Two periods per week should be given to agriculture the first half year and three the second.

TEXT BOOKS.

Agricultural text books suitable for high school classes are not very numerous. There are quite a number suitable as books of reference, several of these should be found in the school library.

For high school classes in agriculture the most suitable text is in all probability:

Principles of Agriculture, by L. H. Bailey.

For books of reference see the list on Agriculture and Nature Study in the library section of this bulletin.

Teachers desiring further information about the course in agriculture are requested to correspond with the undersigned.

The University offers special courses in agriculture for teachers in the Summer School. The three months course beginning in January each year deals with the most practical points which the high school teacher should understand. The one year course in agriculture in the University is broader and will give an excellent working knowledge of the subject.

The High School Library.

DUNCAN BURNET.

There is at present no law in this state making mandatory the setting aside, from the town or county high school fund, of a percentage for the maintenance of a library. Since no space need be taken here in discussing a fact so patent as the need of a library in each high school, it will also be unnecessary to do more than suggest that special effort be made to place the high-school library on a firm basis, and in the future provide a steady fund, however small that may be, for its growth.

The high school library should be well equipped with general reference books necessary to both teacher and student, with standard and recent works along the lines of the studies pursued, to promote and broaden the interest of the students in their work,

and finally with a fair proportion of books selected especially as aids to the teachers themselves. It is with these aims in view that the lists of books at the end of this paper have been prepared by members of the University faculty and the Librarian.

The following further aids are suggested:

A. L. A. catalogue. 1904. Washington, Superintendent of documents.

(Free to libraries. To individuals 50 cents.)

This is the revision of the model library catalogue of 1893. It has been prepared by the combined efforts of librarians and specialists all over the country. Every library, however small, should have this volume.

The forthcoming list of books of more elementary character than those recommended in this list; to be published this year by the State School Commission.

The following is a reliable guide to the use and selection of reference books:

Kroeger, A. B., Guide to the study and use of reference books. 1902. Houghton \$ 2.00

Each school should have, if possible, a separate, well-lighted and cheerful room given over to the library. Furnish it with tables and chairs, make it attractive and keep it open all day as a study room for pupils. As a librarian can hardly be afforded, put the library in charge of one of the teachers most interested, with power to put the room in charge of a reliable older pupil when the teacher cannot be there. But if your library is large enough to warrant the employment of a librarian be sure to get some one with library training or experience. The librarian or teacher in charge should read carefully one or both of the following:

Dana, J. C. Library primer. Ed. 2. 1900. Atlanta, Library

Bureau \$1.00

Plummer, M. W. Hints to small libraries. Ed. 3. 1902. Lane.. .50

The books should be on shelves where students may have free access to them. Nothing encourages the love of reading and good books as much as personal contact with them. All but the constantly used reference books should be circulated freely. During vacation make provision for keeping the library open and encouraging the drawing of books for home reading. Rules should be few and simple: a rule enforcing quiet in the library; one covering mutilation and marking of books; one stating the number of books which a pupil may have out at one time and the period for which books may be kept.

In purchasing books, if your local dealer cannot give you good terms and intelligent assistance in selection of editions, order from a dealer in some large city. The following are suggested:

Lester Book and Stationery Co., Atlanta.

Baker and Taylor Co., New York.

For foreign books: G. E. Stechert and Co., 9 East 16th St., New York.

The discount on books will vary from 25 to 35 per cent, except on books published under the present net price system, where it is but 10 per cent or less. When you have found a satisfactory agent, give him all your orders. He will repay you by giving greater care to your wants, and your accounts will be simplified. Take great care to state exactly what you want—state author, title, edition and publisher. Keep a copy of every order. When books arrive, they should be examined carefully for imperfections and then entered immediately in an accession book. This is the official record of the library and not in any sense a catalogue. A line must be given to each volume and each line numbered consecutively. The number given each volume is then to be written in the volume itself, preferable at the bottom of the page following the title-page. Books must then be marked with the name of the library. A rubber stamp for this purpose can be procured for a small price. Mark the title-page and some other, say page 39, and the last.

When the library reaches such a size that all the books cannot be taken in at a glance, it should be catalogued on cards, under author, subject and title; the so-called "Dictionary catalogue." This can only be done adequately by someone who has been trained in library methods. Simple instructions are given in Dana's Primer, and Plummer's Hints, mentioned above, but we strongly recommend that the teacher in charge of the library take a course at one of the summer schools of library science.

The A. L. A. Catalogue, mentioned above, is a model, both of book selection and of cataloguing. Cards for all books in this catalogue and for all books copyrighted since 1898 may be procured from the Library of Congress for the actual cost of printing and distribution. Particulars as to subscription and methods of ordering may be obtained from the Librarian of Congress, Washington, D. C. If the library is to be catalogued, we recommend that L. C. cards be purchased for all books within the scope of the L. C. stock.

The following books on dictionary cataloguing are recommended:

Cutter, C. A. Rules for a dictionary catalogue. Ed. 4. 1904. Washington, Bureau of Education.

Dewey, M. Simplified library school rules. Library Bureau... \$1.25

Crawford, E., Cataloguing. 1900. Library Bureau... .15

Classification of the library's books should go hand in hand with cataloguing. We advise that one of the well known systems in vogue in this country be adopted; preferably the Dewey system.

An outline of this system will be found in the A. L. A. Catalogue, 1902, and in enlarged form in the following:

Dewey, M., Abridged decimal classification. Library Bureau...\$1.50

In this bare outline only the most elementary points have been touched upon. The University Librarian will be glad to correspond with anyone interested in the establishment or the organization of a high school library.

REFERENCE BOOKS.

Encyclopedias.

New international encyclopaedia, 17v. 1902-04. Dodd	\$5.00
Appleton, Annual cyclopaedia. (latest volume) Appleton ...	5.00
Century cyclopedia of names. 1899. Century. ...	10.00

Dictionaries—English. (One of the following.)

Century dictionary. 6v. 1904. Century ...	60.00
Standard dictionary. New ed. rev. 2v. 1903. Funk ...	10.00
Webster's international dictionary. rev. ed. 1900, Merriam	10.00

Dictionaries of Other Languages.

Lindell & Scott. Greek-English lexicon. ed. 8. American Book Company ...	10.00
Or their, Intermediate Greek-English lexicon. American Book Company ...	3.50
Lewis, C. T. Latin dictionary for schools. American Book Company ...	4.50
Muret-Sanders. German and English dictionary. (house and school ed.) 2v. Langenscheidt... ..	13 marks
Smith & others. International English-French dictionary. New ed. 2v. 1896. Jenkins ...	6.50
Velasquez. New pronouncing dictionary of the Spanish and English languages. Rev. ed. 1900-02. Appleton ...	6.00

Other Reference Books.

Appleton's cyclopaedia of American biography. Rev. ed. 6v. 1900. Appleton ...	30.00
Brewer, E. C. Dictionary of phrase and fable. New ed. 1902. Lippincott ...	1.50
Brewer, E. C. Historical note-book. 1891. Lippincott ...	3.50
Brewer, E. C. Reader's hand-book. 1904. Lippincott ...	3.50
Brookings & Rigwalt, briefs for debate. 1899. Longmans ...	1.25
Bryant, W. C. ed. New library of poetry and song. 1903. Baker ...	5.00
Century Atlas. 1897. Century Co. ...	12.50

Crabb, G. English synonyms. New ed. Harpers	1.25
Hoyt, J. K. Cyclopaedia of practical quotations. 1896. Funk ...	5.00
Larned, J. L. History for ready reference. Rev. ed. 6v. 1901.	
Nichols	30.00
Ploetz, K. Epitome of ancient, mediaeval and modern history.	
Ed. 9. 1898. Houghton.	3.00
Willsey, J. H. Harper's book of facts, 1895. Harper	8.00
World almanac. (latest volume) Press Publishing Co25

PEDAGOGY AND PSYCHOLOGY.

Psychology (one of the following)

Baldwin, J. M. Elements of psychology. Holt.	\$ 1.50
Titchener, E. B. Primer of psychology. Macmillan	1.00
Halleck, E. P. Psychology and psychic culture. American	
Book Company	1.25

Educational Psychology.

James, W. Talks to teachers. 1899. Holt	\$ 1.50
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History of Education (one of the following)

Davison, T. History of education. 1900. Scribner	\$ 1.00
Seeley, L. History of education, American Book Comapny ..	1.25

Pedagogy and Special Methods.

Dutton, S. T. School management. 1903. Scribner	\$ 1.00
McMurry, C. A. Elements of the general method. 1903. Mac-	
millan90
McMurry, C. A. & F. M. Methods of the recitation. 1903.	
Macmillan90
Bennett & Bristol. Teaching of Latin and Greek. Longmans	1.50
Bourne, H. E. Teaching of history and civics. 1902. Long-	
mans	1.50
Chubb, P. Teaching of English. 1902. Macmillan,	1.00
Smith, D. E. Teaching of elementary mathematics. 1900, Mac-	
millan	1.00
U. S. Bureau of education. Annual report. Bureau of education	
Washington.	

ENGLISH.

For Reference.

Bates, A. Talks on the study of literature. 1897. Houghton ...	\$ 1.50
Brooke, S. A. History of early English litrature. 2v. 1892.	
Macmillan	2.50

Cook & Tinker. Select translations from old English poetry, 1902. Ginn	1.00
Dowden, E. Introduction to Shakespeare. (1900). Scribner..	.75
English men of letter series, ed. by H. Morley. 38v. Harper	18.00
Greenough & Kitteredge. Words and their ways in English speech. 1901. Macmillan	1.10
Hall, F. Modern English. Scribner.	2.00
Lounsbury, T. R. History of English language. 1894. Holt ..	1.12
Minto, W. Manual of English prose literature. 1899. Ginn ..	1.50
Saintsbury, G. Short history of English literature, 1898. Mac- millan	1.50
Skeat, W. W. Concise entymological dictionary. 1893. Claren- don	1.25
Stedman, E. C. American anthology. 1900. Houghton	3.00
Taine, H. History of English literature. 2v. 1900. Holt ..	6.00
Wendell, B. Lectures on English prose composition. 1892. Scribner	1.50
Wendell, B. Literary history of America. 1900. Scribner	3.00

ENGLISH CLASSICS.

Austen, J. Emma.
 Blackmore, R. D. Lorna Doone.
 Boswell, J. Life of Samuel Johnson.
 Burroughs, J. Sharp eyes.
 Carlyle, T. Heroes and hero worship. Past and present.
 Cooke, J. E. Surry of Eagle's Nest.
 Cooper, J. F. Deerslayer. Last of the Mochicans.
 Curtis, G. W. Prue and I.
 Dequincey, T. Select essays.
 Dickens, C. Nicholas Nickleby. Tale of two cities.
 Eliot, G. Mill on the Floss. Romola. Silas Marner.
 Emerson, R. W. Essays on friendship and self-reliance.
 Goldsmith, O. Vicar of Wakefield.
 Hale, E. E. Man without a country.
 Hawthorne, N. Tanglewood tales.
 Holmes, O. W. Autocrat of the breakfast table.
 Hughes, T. Tom Brown at Rugby.
 Irving, W. Sketch book. Tales of a traveler.
 Kingsley, C. Hypatia.
 Kipling, R. Jungle books.
 Lamb, C. Tales from Shakespeare.
 Longfellow, H. W. Complete poetical works.
 Lowell, J. R. Works.
 Mabie, H. Books and culture.

Macaulay, T. B. Lord Clive.

Milton, J. Paradise lost.

Page, T. N. Red rock.

Poe, E. A. Tales.

Pope, A. Iliad.

Ruskin, J. Seven lamps of architecture.

Scott, W. Ivanhoe. Lady of the lake. Marmion. Quentin Durwood.

Shakespeare, W. As you like it. Hamlet. Julius Caesar. King

Lear. Macbeth. Merchant of Venice. Richard III. Tempest.

Stevenson, R. L. David Balfour. Kidnapped. Treasure Island.

Tennyson, A. Idylls of the king. Princess.

Thackeray, W. M. Henry Esmond.

Twain, M. Adventures of Huckleberry Finn. Innocents abroad.

Wallace, L. Ben Hur.

Warner, C. D. Backlog studies.

Wordsworth, W. Complete poetical works.

Many of the leading publishing houses have admirable series of the English and American classics. The books in these series are cheap, well-printed, and generally well annotated. The A. L. A. catalogue, mentioned above, may be followed in the choice of editions and to great advantage in the selection of books in language and literature.

GREEK AND LATIN.

Greek.

(A good Greek grammar.)

Capps, E. From Homer to Theocritus. 1901. Scribner\$ 1.50

Gildersleeve, B. L. Syntax of Classical Greek (when completed).

Homer, Odyssey; text and English version by G. H. Palmer.

1895. Houghton 2.50

Jebb, Sir R. C. Greek Literature. Amer. Book Co.... .. .35

Mahaffy, J. P. Old Greek life. Amer. Bk. Co.35

Xenophon. Works (Ancient classics) Lippincott... .. .50

Latin.

Crutwell, C. T. History of Roman literature. 1877. Griffin. . . . \$ 2.50

Forsyth, W. Life of Cicero. 1877. Scribner 2.50

Froude, J. A. Caesar. 1879. Scribner 1.50

Gildersleeve, B. L. Latin Grammar, Ed. 3. 1894. University

Publishing Co. 1.20

Gow, J. A. Companion to school classics. Ed. 3. 1893. Ginn ... 1.50

Mackail, J. W. Latin literature. 1895. Scribner 1.25

Preston & Dodge. Private life of the Romans. 1893. Sanborn ..	1.00
Additional Works on Literature and Antiquities.	
Aristotle. Poetics; text and trans. by Butcher. Macmillan ...\$	1.50
Arnold, M. On the study of Celtic literature and On trans- lating Homer. 1902. Macmillan	1.50
Baedeker, K. Greece. Scribner	2.40
Barrows, S. J. Isles and shrines of Greece. 1898. Little... .	2.00
Becker, W. A. Gallus; or, Roman scenes in the time of Au- gustus. 1898. Longmans	1.25
Butcher, S. H. Some aspects of the Greek genius. Ed. 3. 1904.	2.50
Collingnon, M. Manual of Greek archaeology. Cassell.	1.90
Gardner, E. A. Ancient Athens, 1902. Macmillan	5.00
Gardner & Jevons. Manual of Greek antiquities. Ed. 2. 1897. Griffin	4.00
Gayley, C. M. Classics myths. 1893. Ginn	1.50
Gildersleeve, B. L. Essays and studies. 1890. Murray.	
Giles, P. Short manual of comparative philology for classical Students. Ed. 2, 1901. Macmillan	3.25
Guhl & Koner, Life of the Greeks and Romans. New Ed. 1899. Appleton	2.50
Jebb, Sir R. C. Growth and influence of classical Greek poe- try. Houghton	1.50
Jebb, Sir R. C. Homer. Ed. 6, 1898. Ginn	1.12
Kiepert, H. Classical atlas. Sanborn	2.50
or	
Johnston, A. K., Classical Atlas, Ginn	2.00
Mahaffy, J. P. Social life in Greece. Ed. 6. Macmillan.... .	2.50
Mau, A. Pompeii, its life and art. New ed. 1902. Macmillan ...	2.50
Peck, H. T. ed. Harper's dictionary of classical literature and antiquities. 1897. Amer. Bk. Co.	6.00
Platner, S. B. Topography and monuments of ancient Rome. 1904. Allyn	3.00
Sellar, W. Y. Roman poets of the Augustan age: Virgil. Ed. 3. 1897. Clarendon	2.25
Smith, Sir W. Classical dictionary of Greek and Roman biog- raphy, mythology and geography. 1894. Appleton	6.00
Tarbell, F. B. History of Greek art. Macmillan.	1.00
Thucydides. Thucydides, tr. by B. Jowett. 2v. 1881. Clarendon	3.75
Westcott & Hoyt. New Testament in Greek, 1899, Macmillan..	1.00

GERMAN.

For Reference.—For Schools Offering German Courses.

Freytag, G. Aus dem Staat Friedrichs des Grossen, Macmillan	.50
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Heller, O. Studies in modern German literature. (announced)	
Keller, I. Bilder aus Deutschen Litteratur. Amer. Book Co. . .	.75
Müller, W. Leitfaden zur Geschichte des Deutschen Volkes.	
Vahlen.	2.50
Scherer, W. History of German Literature, 2v. Scribner . . .	3.50
Schrakamp, J. Erzählungen aus der Deutschen Geschichte.	
Holt90
Stern, M. Geschichten vom Rhein. Amer. Book Co.85
Wachenhusen, H. Vom ersten bis zum letzten Schuss. 1898.	
Macmillan60

For Reading.

Andersen, H. C. Märchen.	
Chamisso, A. von. Peter Schlemihl.	
Eckstein, E. Der Besuch im Carcer.	
Freytag, G. Die Journalisten.	
Gerstäcker, G. Germelshausen.	
Göthe, J. W. Faust, Part I., Poems.	
Grimm, J. L. & W. K. Kinder-und Hausmärchen.	
Hauff, W. Das kalte Herz.	
Heine, H. Die Harzreise.	
Heyse, P. L'Arrabbiata.	
Keller, G. Kleider machen Leute.	
Kleist, H. v. Michael Kohlhaas.	
Lessing, G. E. Minna von Barhelm.	
Niese, C. Aus Dänischen Zeit.	
Schiller, F. Der Neffe als Onkel.	
Storm, W. Immensee.	
Wildenbruch, E. von. Das edle Blut.	

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Demogegot, J. Textes classiques de la littérature française,	
2v. Paris, Hachette	61
Dowden, E. History of French literature, 1897. Appleton. . . \$	1.50
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 Chateaubriand. Génie du Christianisme. René.
 Coppé. Contes.
 Corneille. Le Cid. Polyeucte.
 Enault. Le chien du capitaine.
 Erckmann & Chatrian. Le conscrit de 1813.
 Fénelon. Télémaque.
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 Lamartine. Graziella. Méditations.
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 Mérimée. Colomba.
 Molière. Le bourgeois gentilhomme. Le tartuffe.
 Musset. Pierre et Camille.
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High-School Facilities for Rural Pupils.

JOSEPH SPENCER STEWART, A. M.

The cities and larger towns are providing high school facilities for their children, but little or nothing, however, has been done to help the rural children obtain secondary education. Thousands of boys and girls complete the rural school course and seeing nothing ahead are satisfied and begin life poorly prepared for its duties. Others have heard of the college and its valuable training but find several years of preparation needed and no school that can help them. A few find their way into the village; others get help from the rural school teacher, taking his time from the common school branches to give instructions in Latin and Algebra. By the latter practice the children in the required subjects are often neglected, and the instruction in the advanced studies is necessarily unsatisfactory. Trustees ought not to expect or allow one teacher to attempt so much. It is clearly a stretching of the common school law and hurtful to the adopted course of study.

These children, however, need and must have secondary school privileges. Many of the choicest spirits of our nation come from the rural districts and we must see to it that they have equal advantages with the youth of the cities. How shall this be done?

There have been several plans suggested and tried in the United States, namely: (1) Union district high schools; (2) Township high schools; (3) County high schools; (4) state aid to existing high schools. For those interested in these plans I refer them to Chapter XII of Report of U. S. Bureau of Education, 1899-1900. On page 649 the author says: "A careful study of all the conditions involved seems to me to make it very doubtful whether the creation of a new class of high schools is the best way to reach the country pupils. The present tendency everywhere is for these pupils to find their way into the village and city high schools. If their tuition could be provided at public expense so as to multiply, enlarge and strengthen such schools, we would have immediately, in most states, the best solution of the problem before us.

The village high school needs the large membership and the increased income from the attendance of the rural population. It has often been remarked, too, that country pupils are on an average somewhat more devoted to study than the city pupils, and hence improve the student spirit and esprit de corps of the school. They usually make more sacrifices to attend, come farther or perhaps

board away from home, and are generally less distracted by domestic and social interests. We see, therefore, that the high schools gain in income, attendance and scholarship. All these reasons make it advantageous to the existing high schools to furnish instruction for the rural pupils. It is better also for the rural people to obtain free high school opportunities at these schools. Convenience is an important consideration. It is as natural for the village or city to be the high school center as to be the trade center of the surrounding country. As a rule the country people want the same kind of high schools as the people of the city. They know that they are the peers of the city students and they desire to demonstrate the fact. There is no divergence either of talent or of destiny that requires a separation of rural from city high school students."

In circular Number 49, office of Experiment Stations, U. S. Department of Agriculture, Director A. C. True publishes a report of the committee on methods of teaching agriculture of the Association of American Agricultural Colleges and Experiment Stations. This report says: "There are many villages and cities in the U. S. Which are dependent on the farms surrounding them for their commercial prosperity, if not for their very existence. The high schools maintained in these places draw their students largely from the farms. There is good reason why communities of this kind should seek through their schools to promote the interests of the industry to which they owe so much. As a practical measure it is believed that such courses may be added to those already existing in many high schools by the addition of a single teacher who should be an agricultural college graduate. The expense of maintaining this teacher may properly be shared by the state and the local communities. This extra expense will be cheerfully paid by the villages or cities maintaining high schools as soon as they realize that such expenditure is in the nature of an investment, the returns from which in the way of better and more abundant agricultural products will be certain and remunerative."

Both the U. S. departments of education and of agriculture agree upon the plan of state aid to existing public high schools with required standard and curriculum as best for all classes.

Chapter XII. Report of Commissioner of Education, 1903, gives a history of secondary education in America. The charts used in this article were made from figures found therein. On pages 568-569 of this report are shown the states giving aid to high schools. On my recent trip to Wisconsin I found the plan of state aid to existing high schools of a prescribed standard the only successful one of the many tried in the northwest. Wisconsin gives \$400 to each such high school and the school is free to residents of the county.

In many of the high schools in Georgia classes are small so that the extra students from the country could be provided for under present class room facilities.

Chart Number 4 gives the growth of public high schools in America since 1865. At that time there were only 40 such schools. Now there are nearly 7,000 with 550,000 students. The experience of others demonstrates that our fathers were right in the plan of public education as outlined in the charter of the University. We must have in Georgia, then, an efficient common school system of seven years length, supported by state and community, in reach of every child, and taught by trained teachers. Upon this must be built, in every county, at least one high school with optional courses of three years length. This will naturally be in some village or town, generally the county seat, and supported largely by a local tax, free to the children of the town. This high school should be open to the children in the county that have completed the prescribed common school course. To secure free tuition for these and help strengthen the village high school the state should appoint a high school commission composed of the chancellor of the university, the state school commissioner and one representative citizen in each congressional district, to have general supervision and to act with the local authorities in high school matters. The state should set aside a small sum, not exceeding \$400 for each county, to be given to that high school, selected by the commission, which will best meet the requirements in curriculum, equipment, management and provisions for boarding students from the country. The selected high school would become an accredited school of the university, subject to inspection.

The plan would assure a high school in each county, it would prevent loss of time in the rural schools and concentrate the work so that it could be done successfully. The appropriation would be sufficient inducement for acceptance by any progressive community, when the prestige and added boarding students are taken into consideration. It would develop self help on the part of the communities and knit the parts of our educational system together, carrying out the original plans of our fathers. The towns need the larger membership and increased income. They need the sturdy country lads to add to the student spirit of the school. The community spirit will be strengthened between town and country by the friendships formed in school. Already the commercial, social and political center, the town will become the educational center, the influence of its schools radiating to the remotest home in the county. The educational standards of the county will be lifted; the wealth producing power will be increased; the way towards

college will be made easier; the business and industrial interests will be improved and the rural schools will be supplied with better teachers. The commission could encourage broader courses of study which would more closely connect school life with the life of the people.

In the three courses outlined elsewhere in the Bulletin the children of the county could find that instruction which would help them to become intelligent and progressive workers in every industry, as well as refined and useful citizens and home-makers.

With such a foundation course to build on our youth can go at once to work or take advanced courses at the Technological school in engineering; at the Normal Schools in teaching; at the University in agriculture, pharmacy, commerce, law, science, pedagogy, medicine; or attend one of the many excellent private institutions. Let the special technical instruction be done in the higher institutions where every facility is offered for experimentation, but let the basic instruction begin in each county in the high school.

It is cheaper and better in every way for the higher institutions to do the advanced and technical instruction and leave all of the high school teaching to the high schools. The higher institutions will be in close touch with the secondary schools and these will bear the same relation to the common schools.

The chart shown herewith illustrates the working of such a system. About the local school house centers the intellectual life of the community. Here will be the community library, with books and periodicals relating to the industrial life of the people. Here will be kept the agricultural Bulletins and other publications of the government, useful to the community. Here will be the books on general literature for use of the debating club and woman's club.

When the pupils complete this course they enter the accredited high school. They drive in each day or, if too far for this, they drive in on Monday, returning home on Friday. A co-operative boarding house should be supplied by the town or private individuals so that the expenses per month need not exceed 7 or 8 dollars. This high school will be accredited by the University and students graduating will be admitted to its several departments on the certificate of the principal. Other institutions will also recognize the certificates and be benefited by the system.

The state cannot afford to let the white boys and girls longer remain without high school privileges. This is a plea for the white boys and girls, and if we know our people aright it will not go unheard. Let the state help the local high school reach all of the white youths in the country who wish high school training.

This is a question for all the people to solve in their civic relations. It cannot be left to chance or benevolence or to a part of the community.

The farmers pay the \$65,000 oil inspection and fertilizer fees. This fund could be set aside for the encouragement of at least one high school in each county, free to all the white youths. Under our constitution this would have to be appropriated to the University for the specific purpose named. It could be disbursed as mentioned above or by the committee of the Board and the heads of the several parts of the University. That is a matter of detail. What we ask of the people of the towns and of the country is that they demand good public high schools, in every county free to the white children of the county. We do not need congressional high schools, or two or three agricultural high schools remote from the people, but high schools in every county, in driving distance of the homes of the people of the county.

The plan suggested above will not increase taxation or decrease the amount of money to the counties, but will set aside a small sum, arising from the industry of the country people, for the secondary education of the ambitious white boys and girls in the rural districts. The people owe it to their children, owe it to their state to give these advantages to all the youth of the country.

We stand pledged to aid in this improvement of the school facilities in the several counties. Let the people ask their representatives for help and at the same time begin work at home.

Public Private and Sectarian High Schools

Non Sectarian Schools	23	148	
Sectarian Schools			
Non-Sectarian Pupils	Public	6423	Private 2986
Sectarian Pupils			
Baptist	1541		
Meth.E.C South	702		
Presbyterian	527		
Congregational	156		
Northern Methodist	113		
Catholic	180		
	61		
Female Pupils		57%	
Male Pupils		43%	
Co-educational			156
Boys Only	8		
Girls Only	2		
Classical		13%	
Scientific		5%	
Graduates		8%	
	a	b c	d
	a-In Common Schools 16.3%	b-High Schools .005%	c-College .002%

Population of Georgia

.2 Out of School 82.8%

Chart No. 2 shows the present facilities in Georgia for giving High-School instruction, the number of students availing themselves of these, and the per cent. of the population in school.

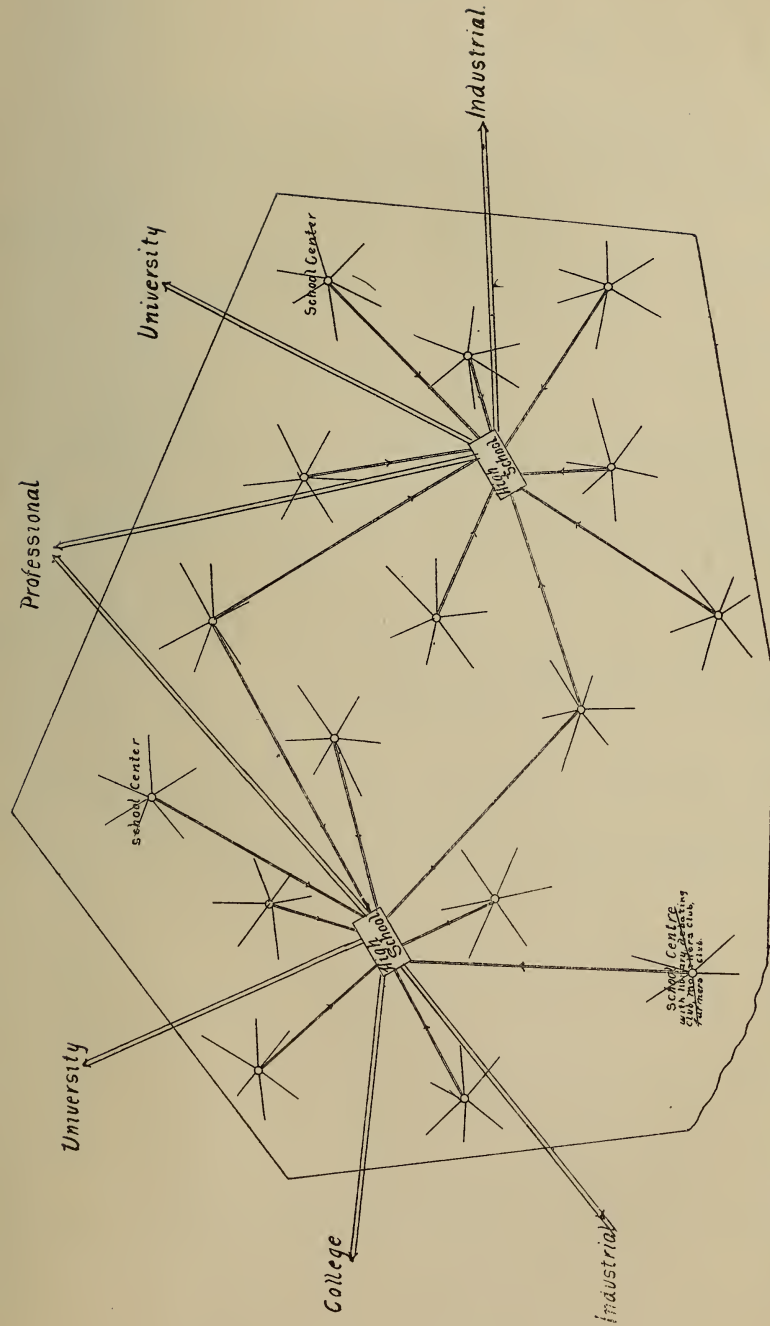


Chart No. 4 shows a county with its rural schools in reach of all the children; the relation of these schools to the central high schools and of these to the university and colleges.

Showing Growth of Public and Private High Schools

No. Schools: U.S.

1865-1904.

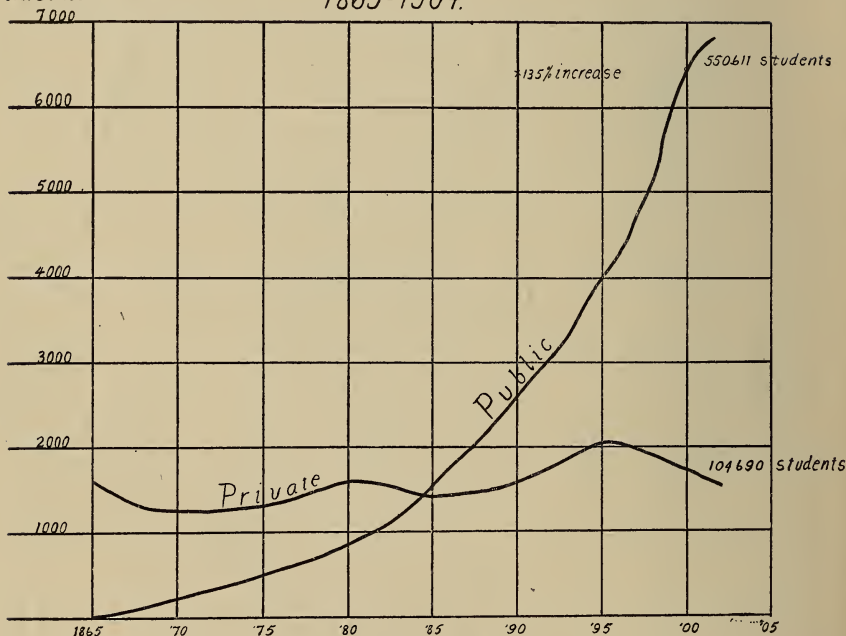


Chart No. 5 shows the growth of Public High Schools in America since 1865 when there were only 40. Now there are over 7,000 with 550,000 students.

University Summer School.

THIRD SESSION.

June 27th to July 28th, 1905.

Superintendent of Summer School, W. B. Merritt.

Assistant Superintendent, T. J. Woofter.

Registrar, Principal F. M. Harper, Athens City High School.

Directors: Walter B. Hill, Chancellor; D. C. Barrow, Dean, Franklin College; H. C. White, President State College; E. C. Branson, President State Normal School; T. J. Woofter, Professor of Philosophy and Education, University of Georgia; W. B. Merritt, State School Superintendent.

The courses of instruction in the Summer School will embrace:

1. Common-School Subjects.
2. High-School Subjects.
3. College Courses.
4. Professional (teachers') Courses.

The purposes of the Summer School are:

I. To extend to those who are occupied during the school year the advantages which the University offers in the library, laboratories and other facilities for study connected with the University.

II. The School offers courses of study for teachers in our city and rural schools, reviewing the work covered by the authorized common school courses and offering instruction in school management and methods of teaching. This school will be helpful to those expecting to take the state teachers' examination.

III. Opportunity is offered to young men and women for special study on the entrance requirements preparatory to entering the University or other institutions in the fall. Students expecting to enter the University in September should enter the summer session, if their preparation does not meet the entrance requirements.

IV. Courses covering the entrance requirements of the University for the purpose of aiding those who teach or are expecting to teach in high schools and academies.

V. Many special courses in handicraft, domestic science, etc., will be offered.

The Summer School faculty will embrace representatives of the faculties from the different branches of the University system and other colleges in the state and other eminent educators from this and other states.

EXPENSES.

A fee of \$3.00 is charged each person registering in the Summer School. This will admit a student to the classes for which he registers and to all public lectures given during the session. Rooms in the dormitories are free and table board at the University Dining Hall or at the Normal School Hall will be \$3.50 per week. Reduced rates are given by the railroads.

A bulletin giving complete information as to courses of study, etc., may be obtained on application to Chancellor W. B. Hill, Athens, or from F. M. Harper, Registrar, Athens, Ga.

University Auxiliary

University Auxiliary was organized for the purpose of improving the educational conditions of the State, by means of public addresses, University extension lectures, newspaper articles, local aid to common schools, establishment of high schools, and the encouraging of gifts and bequests to the cause of education.

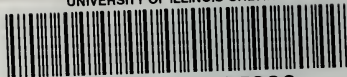
ADVISORY BOARD.

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